FEB 17 1020

THE MATICS TEACHER

Official Journal of the NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

(Incorporated)



CLASSIFIED INDEX

Volumes XIV to XXII 1921 - 1929

SUPPLEMENT NO. 1

FEBRUARY · 1930

THE MATHEMATICS TEACHER

COMMITTEE ON OFFICIAL JOURNAL

Editor-in-Chief-WILLIAM DAVID REEVE, Teachers College, Columbia University, New York City.

Associate Editor-Vera Sanford, 11421 Mayfield Road, Cleveland, Ohio.

HERBERT E. SLAUGHT, University of Chicago, Chicago, Ill.

OFFICERS

President—H. C. BARRE, 76 Court St., Rutter, N.H.
First Vice-President—C. M. Austin, Oak Park, III.
Second Vice-President—HALLIE S. POOLE, Buffalo, N.Y.
Secretary-Treasurer—Edwin Schreiber, 434 W. Adams St., Macomb, III.

DOTTIONAL MEMBERS ON THE BOARD OF DIREC

20000000000	THE RESERVE THE PROPERTY OF THE PARTY OF THE
	[WM. BETZ, Rochester, N.Y
One Year	J. A. Foberg, California, Pa
	W. F. DOWNEY, Boston, Mass
	MARIE GUGLE, Columbus, Ohio
Two Years	HARRY ENGLISH, Washington, D.C
	MARY SABINE, Denver, Colo
	JOHN R. CLARK, New York City
Three Years	ELIZABETH DICE, Dallas, Tex
	J. O. Hassi et, Norman, Olda

This organization has for it object the advancement of mathematics teaching in junior and senior high schools. All persons interested in mathematics and mathematics teaching are eligible to membership. All members receive the official journal of the National Council—The MATHEMATICS TRACHER—which appears monthly, except June, July, August and September.

Correspondence relating to editorial matters, subscriptions, advertisements, and other business matters should be addressed to

THE MATREMATICS TEACHER

450 Almaip St., Menasha, Wisconsin

525 West 120th St., New York City

SUBSCRIPTION PRICE \$2.00 PER YEAR (eight numbers)

Foreign postage, 50 cents per year; Canadian postage, 25 cents per year. If remittance is made by check, five cents should be added for exchange.

Single copies, 40 cents

	4pp.	8pp.	12pp.	16pp.	20pp.	24pp.	28pp.	32pp.
	1 to 4	5 to 8	9 to 12	13 to 16	17 to 20	21 to 24	25 to 28	29 to 32
50 Copies	\$2.50	\$4.00	\$6.25	\$6.50	\$ 8.50	\$ 9.75	\$11.25	\$12.00
	3.00	4.75	7.25	8.00	10.25	12.00	14.00	15.00
Copies per C	1.00	1.50	2.50	3.00	3.50	4.50	5.50	6.00

1,000 copies or more deduct 10%. 5; additional 2c each, r first 50 plates, \$2.00; additional 1%c each. Printed on additional 2%c each.

ale to make total. Example: for 44 pages add or additional composition or changes either in text or

SUPPLEMENT THE MATHEMATICS TEACHER

The Official Journal of The National Council of Teachers of Mathematics Incorporated 1928

FEBRUARY · 1930 ·

« Contents »

Foreword	 	 	 				*	٠			2
Index by Titles and Subjects	 	 	 			 				٠	3
Index by Authors	 	 	 	 			*		 		40
Book Reviews	 	 	 	 	 			*	 		61

Volume XXIII

Number 2

Published by the NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS Menasha, Wisconsin

Application has been made for transfer of second class entry to the post office at Menasha, Wisconsin, under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized November 17, 1921.

THE MATHEMATICS TEACHER is published monthly except June, July, August and September. The subscription price is \$2.00 per year. Single copies sell at 40 cents each.

FOREWORD

At the annual meeting of the National Council of Teachers of Mathematics in February 1929, it was voted that the editor of The Mathematics Teacher compile a cumulative index of articles published in the official journal since it was taken over by the Council in January 1921. This index

accordingly covers the years 1921 to 1929 inclusive.

With the desire to make the index as useful as possible, articles are listed by titles and subjects, and by authors. The choice of topics in the classification by subjects was made on the basis of the needs of classroom teachers. Here, for example, are listed all of the plays that have appeared in the journal during the nine-year period. It is hoped that the usefulness of these bibliographies will outweigh the errors in classification that are inevitable in a study of this type. The index by authors and the subject index together will be useful in locating articles whose precise title is unknown. For the further convenience of the reader, the month and year are given with each title as well as the volume number and page. In the list of book reviews, the titles appear under the name of the author, and when the review is signed, the name of the reviewer follows the title of the book.

I wish to express my own personal appreciation as well as that of the Council to Dr. Vera Sanford of the School of Education of Western Reserve University, Cleveland, Ohio, for assisting in the preparation of this index. Without her help it would have been impossible to get the index ready.

Beginning with the tenth year of the publication of The MATHEMATICS TEACHER by the Council, it is proposed to issue an index of each volume at the close of the year.

W. D. REEVE

New York, January 4, 1930

INDEX BY TITLES AND SUBJECTS

Ability classification in ninth grade algebra. Mensenkamp, L. E., XXII, Jan. 1929, 38-48.

Ability grouping, see homogeneous classification. -

Ability grouping in mathematics classes. Durell, Fletcher, XXI, Nov. 1928, 398-411.

Ability grouping of students in senior high school mathematics. Weimar, M. Bird, XXI, Feb. 1928, 102-106.

Absurdities due to division by zero. Cajori, Florian, XXII, Oct. 1929, 366-368.

Accuracy of the values for pi. Walck, Sidney, XIX, Feb. 1926, 110-111.

Achievement tests, see tests.

Achievement test in solid geometry. McCoy, Louis A., XXI, March, 1928, 151-162.

Adapting plane geometry to pupils of limited ability. Hildebrandt, Martha, XVIII, Feb. 1925, 102-110.

Address of welcome (Boston Meeting, 1928). Snow, William B., XXI, Oct. 1928, 344-346.

Adjusting algebra to ability levels through the time element. Cline, Jessie M., XXII, Oct. 1929, 309-317.

Adjusting the course of study in ninth grade mathematics to the ability of the pupil. Beck, Hildegarde, XXI, Jan. 1928, 24-30.

Advantages of a general course in mathematics for the first two years in high school. McCoy, Louis A., XVI, Nov. 1923, 421-424.

Aims of mathematical education. Minnick, J. H., XIV, Oct. 1921, 297-304. Algebra, see also investigations junior high school mathematics, objective psychology, tests functions.

Ability classification in ninth grade algebra. Mensenkamp, L. E., XXII, Jan. 1929, 38-48.

Adjusting algebra to ability levels through the time element. Cline, Jessie M., XXII, Oct. 1929, 309-317.

Analysis of the learning units in n processes in algebra. Pease, Glenn R., XXII, May 1929, 245-283.

Analysis of the teaching of cancellation in algebraic fractions. Grossman, August, XVII, Feb. 1924, 104-109.

Certain cases of extraneous roots. Hegeman, Andrew S., XV, Feb. 1922, 110-118.

Chapter on the aesthetics of the quadratic. Shaw, J. B., XXI, March 1928, 121-134.

Classroom methods in teaching algebra. Nyberg, Joseph A., XIX, Oct. 1926, 366-372.

Discussion (the major problem of secondary school algebra). Barber, Harry C., XXI, Jan. 1928, 49-50.

Discussion (the rule for the multiplication of two negative numbers). Hall, John J., XIX, Nov. 1926, 429-432.

Extraneous details. Sanford, Vera, XXI, Feb. 1928, 83-91.

Formula for conjunction problems. Huffman, Pleasant, XV, March 1922, 184.

Formula in ninth grade algebra. Kinney, J. M., XIV, Nov. 1921, 367-380.

Formula in secondary education. Bigelow, O. H., XXI, Dec. 1928, 442-453.

Fundamental principles of algebra. Modesitt, R. L., XV, Oct. 1922, 332-346.

Geometric aids for elementary algebra. Wannemacher, Alberta S., XXII, Jan. 1929, 49-57.

Has algebra certain real values for the high school student of today? Perry, Winona M., XX, Nov. 1927, 403-406.

Improvement in algebra teaching. McCain, A. B., XIX, Feb. 1926, 112-114.

Individual work in algebra. Cooke, Martha C., XXII, Oct. 1929, 361-365.
Live problem material in algebra. Davis, Dwight S., XVI, Nov. 1923, 402-413.

Meeting the attacks on algebra. Quigley, Mary J., XIX, March 1926, 155-161.

Notion of limit. Jackson, Dunham, XVII, Feb. 1924, 72-77.

On the nature of algebraic language. Georges, J. S., XXI, March 1928, 135-150.

On the precedence of numerical operations. Moritz, Robert E., XVI, Nov. 1923, 425-430.

Point system of teaching algebra. Wade, Bailey M., XXII, Feb. 1929, 80-82.

Problem of algebra instruction. Birch, John J., XX, March 1927, 161-172. Project in mathematics. Smith, Donald P., XVIII, Feb. 1925, 97-101.

Real improvement in algebra teaching. Barber, Harry C., XVIII, Oct. 1925, 364-374.

Recent changes in the teaching of algebra. Nyberg, Joseph A., XVIII. Jan. 1925, 10-21.

Riddle from Archimedes. Evans, George W., XX, May 1927, 243-252. Rule and reason in algebra. Beatley, Ralph, XIX, Jan. 1926, 25-29.

Some interesting side lights upon elementary mathematics introducing a new expansion of binomial theorem. Meeks, Mrs. L. H., XIX, March 1926, 166-168.

Some of Euclid's algebra. Evans, George W., XX, March 1927, 127-141. Some time-saving methods in teaching graphing. Pearson, M. H., XVII, Feb. 1924, 117-119.

Some values of algebra. Barber, Harry C., XIX, Nov. 1926, 395-399. Systematic procedure in the solution of algebraic problems. Goff, Robert R., XVI, Oct. 1923, 350-355.

Teaching by parables. Lovitt, W. V., XXI, Jan. 1928, 10-17.

Teaching logarithms to high school pupils in eight recitation periods. Rudman Barnet, XIX, Dec. 1926, 456-471.

Teaching of algebra. Richards, Harold F., XVI, Jan. 1923, 41-47.

Teaching of cancellation. Nyberg, Joseph A., XVIII, Dec. 1925, 472-476. Teaching of logarithms. Christofferson, H. C., XVII, March 1924, 178-188.

Teaching the algebraic language to junior high school pupils. Overman, James Robert, XVI, April 1923, 215-227.

Teaching the verbal problem in intermediate algebra. Rudman, Barnet, XXII, Feb. 1929, 83-92.

Team work in elementary algebra. Hawley, James B., XVI, April 1923, 248-250.

Uniform grading of examinations in algebra. Nyberg, Joseph A., XX, April 1927, 203-211.

Use of Problems in teaching elementary algebra. Taylor, E. H., XX, Feb. 1927, 101-111.

Why and how in algebra. Marsh, Harry B., XXI, Feb. 1928, 72-82. Algebraic magic squares. McLaughlin, Henry P., XIV, Feb. 1921, 71-77 Alignment charts.

Alignment charts. Lipka, Joseph, XIV, April 1921, 171-178.

How to figure averages with the top of a shoe box; or the use of an alignment chart in averaging. Roberts, J. A., XVII, Dec. 1924, 471-474. Alignment charts. Lipka, Joseph, XIV, April 1921, 171-178.

A near tragedy. Florence Brooks Miller, XXII, Dec. 1929, 472-481.

Analysis of freshman college mathematics. Watson, E. E., XIX, Nov. 1926, 408-410.

Analysis of the learning units in n processes in algebra. Pease, Glenn R., XXII, May 1929, 245-283.

Analysis of the teaching of cancellation in algebraic fractions. Grossman, August, XVII, Feb. 1924, 104-109.

Analysis versus synthesis. Wuest, Alma M., XX, Jan. 1927, 46-49.

Animated mathematics. Baker, Howard Bates, XVII, Dec. 1924, 482-485. Announcements, see National Council.

Annual meetings, see National Council.

Applications of indeterminate equations to geometry. Tripp, M. O., XXI, May 1928, 268-272.

Applications of mathematics.

Contributions of mathematics to modern life. Camp, C. C., XXI, April 1928, 219-226.

Mathematics and modern life. Olds, George B., XXI, April 1928, 183-196.

Mathematics and modern life: the challenge and the opportunity. Barber, Harry C., XXI, Oct. 1928, 350-352.

Mathematics in modern business. Clarke, Edith, XXI, May 1928, 259-267. Applied mathematics in high school. Judkins, Pearl, XIX, Feb. 1926, 81-85. Appreciation.

Call of mathematics. Smith, David Eugene, XIX, May 1926, 282-290. Esthetics and mathematics. Smith, David Eugene, XX, Dec. 1927, 419-428. Fate and freedom. Korzybski, Alfred, XVI, May 1923, 274-290.

Form of the universe. Smith, David Eugene, XXI, Feb. 1928, 107-110. How can I bring the soul of mathematics to my pupils? Huntington, Albert H., XV, March 1922, 164-171.

Introduction to the infinite. Smith, David Eugene, XXI, Jan. 1928, 1-9. Mathematics and sunshine. Slaught, H. E., XXI, May 1928, 245-252. Poetry of mathematics. Smith, David Eugene, XIX, May 1926, 291-296. Religio mathematici. Smith, David Eugene, XIV, Dec. 1921, 413-426.

Time in relation to mathematics. Smith, David Eugene, XXI, May 1928, 253-258.

Approach to the solution of the problems which the traditional mathematics program presents. Stone, Charles A., XVIII, Dec. 1925, 449-454.

Approximate computation.

Accuracy of the values for pi. Walck, Sidney, XIX, Feb. 1926, 110-111. Errors in computations and the rounded number. Rice, Harris, XV, Nov. 1922, 392-404.

Arithmetic, see investigations, psychology, tests.

Arithmetic in the high school. Dake, L. Gilbert, XV, Feb. 1922, 119-125. Arithmetic in the junior high school. Colwell, Lewis W., XVIII, Feb. 1925, 111-118.

Attempt to improve computation. Potter, Mary, XX, Nov. 1927, 381-385. Comparison of two methods of arithmetic problem analysis. Clark, John R. and E. Leona Vincent. XVIII, April 1925, 226-233.

Computation in junior high school mathematics. Werremeyer, D. W., XIV, May 1921, 255-260.

Effect of certain types of speed drills in arithmetic. Messick, A. I., XIX, Feb. 1926, 104-109.

Four fundamental arithmetical processes in adults. Helseth, Inga Olla, XX, May 1927, 265-273.

Handling problems in arithmetic by type. Moore, Charles D., XXII, Nov. 1929, 427-428.

Influence of standardized tests on the curriculum in arithmetic. Upton, Clifford B., XVIII, April 1925, 193-208.

Informational mathematics versus computational mathematics. Judd, Charles H., XXII, April 1929, 187-197, and errata, Oct. 1929, 332. Need for more adequate measurements of achievement in arithmetic.

Sangren, Paul V., XXII, Jan. 1929, 1-13.

Notes on the teaching of arithmetic. Short, R. L., XV, Dec. 1922, 500-502.

Question of method in subtraction. Roantree, William F., XVII, Feb 1924, 110-116.

Some methods in subtraction. Gibson, Charles S., XVII, Dec. 1924, 486-494.

Study in fractions. Worthington, J. E., XVI, Oct. 1923, 366-373.

Study of the effect of checking upon accuracy in addition. Clark, John R. and E. Leona Vincent, XIX, Feb. 1926, 65-71.

Suggestions on the arithmetic question. Smith, David Eugene, XVIII, Oct. 1925, 333-340.

Thorndike philosophy of teaching the processes and principles of arithmetic. Bailey, Middlesex, A., XVI, March 1923, 129-140.

Visual method of solving arithmetic problems. Otis, Arthur S., XXI, Dec. 1928, 483-489.

Arithmetic in the high school. Dake, L. Gilbert, XV, Feb. 1922, 119-125. Arithmetic in the junior high school. Colwell, Lewis W., XVIII, Feb. 1925,

Arithmetical productiveness of utilitarian, social and scientific ideals viewed historically. Myers, G. W., XX, Feb. 1927, 93-100.

Art of questioning. Gould, Clarence G., XVI, Jan. 1923, 52-56.

Articulation of junior and senior high school mathematics. Van Denberg, Joseph K., XIV, Feb. 1921, 88-94.

Assumptions and proofs. Stabler, E. Russell, XXI, Jan. 1928, 46-48. "Attack" in propositions on inequalities of lines. Haas, Arthur, XIX,

April 1926, 228-234.

Attempt to improve computation. Potter, Mary, XX, Nov. 1927, 381-385.

Beginning geometry and college entrance. Beatley, Ralph, XXI, Jan. 1928, 42-45.

Better use of tests in mathematics. Reeve, William David, XVII, March 1924, 140-147.

Bibliography

Books that help make mathematics interesting. Sharwell, Truman P.,

XIX, Nov. 1926, 419-428.

Brief list of mathematical books suitable for libraries in high schools and normal schools. Smith, David Eugene, Clifford B. Upton, William David Reeve, William E. Breckenridge, and Jekuthiel Ginsburg, XVIII, Dec. 1925, 477-489.

List of reference books and magazines for teachers of mathematics. Reeve, W. D., XV, May 1922, 303-307.

Books that help make mathematics interesting. Sharwell, Truman P., XIX, Nov. 1926, 419-428.

Brief list of mathematical books suitable for libraries in high schools and normal schools. Smith, David Eugene, Clifford B. Upton, William David Reeve, William E. Breckenridge, and Jekuthiel Ginsburg, XVIII, Dec. 1925, 477-489.

Brief study in non-mathematical logic. Lennes, N. J., XVI, April 1923, 242-246.

Buffalo Mathematics Club. XXI, Oct. 1928, 366.

By-laws of the National Council of Teachers of Mathematics (Incorporated). XXI, Jan. 1928, 18-23.

Calculating machines.

Mathematics of the calculating machine. Locke, L. Leland, XVII, Feb. 1924, 78-86.

Some mathematics of the calculating machine. Locke, L. Leland, XV, Nov. 1922, 423-428.

Calculus.

Calculus for schools. Tyler, W. H., XV, April 1922, 208-211.

Calculus in the high school. Kinney, J. M., XVI, Oct. 1923, 321-331.

Earlier place for the calculus in the curriculum. Nordgaard, Martin A., XX, Oct. 1927, 321-327.

Few lessons in calculus for high schools. Goff, Robert R., XV, April 1922, 307-308.

Place and teaching of calculus in secondary schools. Farmer, Susie B., XX, April 1927, 181-202.

Place of elementary calculus in senior high school mathematics. Rosenberger, Noah Bryan, XV, March 1922, 152-156.

Place of the calculus in the training of the high school teacher. Cosby, Byron, XVI, Nov. 1923, 431-439.

Call of Mathematics. Smith, David Eugene, XIX, May 1926, 282-290. Carus Mathematical Monographs. Slaught, H. E., XVIII, March 1925, 183-

184.
Case for general mathematics. Reeve, William David, XV, Nov. 1922, 381-391.

Causes of failure in plane geometry as related to mental ability. Crafts, Lilian L., XVI, Dec. 1923, 481-492. Certain cases of extraneous roots. Hegeman, Andrew S., XV, Feb. 1922, 110-118.

Certain mathematical ideals of the junior high school. Smith, David Eugene, XIV, March 1921, 124-127.

Certain systems of tangent curves. Pearson, M. H., XVII, Oct. 1924, 368-369.

Chapter on the aesthetics of the quadratic. Shaw, J. B., XXI, March 1928, 121-134.

Changeable changeless naught. Hagan, Irene G., XIX, Feb. 1926, 102-103. Changes in subject matter and method to fit different ability groups in mathematics. Price, Lillis, XVII, Dec. 1924, 495-499.

Checking up the prophets. Evans, George W., XIX, Oct. 1926, 362-365.
Circles through notable points of the triangle. Morris, Richard, XXI, Feb. 1928, 63-71.

Civic values in the study of mathematics. Adams, A. S., XXI, Jan. 1928, 37-41.

Classification of positive integers as regards the ultimate sum of their digits. Miller, G. A., XVI, April 1923, 247-248.

Classification of pupils in algebra. Harnish, Walter E., XVII, Jan. 1924, 58.

Classroom methods in teaching algebra. Nyberg, Joseph A., XIX, Oct. 1926, 366-372.

Clubs, see also contests, games, plays.

High school mathematics clubs. Reed, Zulu, XVIII, Oct. 1925, 341-363. Mathematics club. Hatton, Mary Caroline, XX, Jan. 1927, 39-45.

Mathematics club program. Wheeler, Albert Harry, XVI, Nov. 1923, 385-390.

Mathematics clubs. Russell, Helen G.; Duncan, Myrtle H.; Gulden, Minerva; Symmes, Rebecca; Derby, Mary; XVII, May 1924, 283-285. Oct. 1924, 350-358.

Mathematics clubs in high school. Refior, Sophia, XV, Nov. 1922, 434-435. Recreational values achieved through mathematics clubs in secondary schools. Gugle, Marie, XIX, April 1926, 214-218.

College courses in mathematics, See Higher Mathematics, and Freshman College Mathematics.

College Entrance Requirements.

Beginning geometry and college entrance. Beatley, Ralph, XXI, Jan. 1928, 42-45.

College entrance requirements in geometry. Dunham Jackson, XXII, Dec. 1929, 487.

College entrance requirements in mathematics: preliminary report of the National Committee. XIV, May, 1921, 224-245.

College entrance examination board grades. Hart, Howard F., XIV, April 1921, 207-208.

Improvements in teaching algebra and geometry made possible by the new college board requirements. Elicker, Paul E., XVIII, March 1925, 164-170.

Revision of college preparatory mathematics by Miss Gugle. Stroup, P., XIX, Oct. 1926, 373-374.

Solid geometry versus advanced algebra. Babcock, W. F., XX, Dec. 1927, 478-480. College entrance requirements in geometry. Dunham Jackson, XXII, Dec. 1929, 487.

Combined mathematics. Webber, W. Paul, XIV, Nov. 1921, 381-386.

Comments on the teaching of geometry. Touton, Frank C., XIV, May 1921, 246-251.

Communications. Minnick, J. H., Howard F. Hart, XIV, April 1921, 206-208.

Comparison of the mathematics in the secondary schools of Germany and England and the training of teachers of secondary mathematics in these countries with the United States. James H. Zant, XXII, Dec. 1929, 447-461.

Comparison of two methods of arithmetic problem analysis. Clark, John R., and E. Leona Vincent, XVIII, April 1925, 226-233.

Composite course for seventh and eighth grade mathematics. Articulation Committee for Mathematics of the Lake Shore Division of the Illinois Teachers' Association, XV, Jan. 1922, 43-48.

Computation in junior high school mathematics. Werremeyer, D. W., XIV, May 1921, 255-260.

Concerning orientation and application in geometry. Ziegler, D. G., XXII, Feb. 1929, 109-116.

Concerning the disciplinary value of mathematics. Keyser, Cassius J., XVI, Feb. 1923, 123.

Concerning the intercommunion of mathematics and astronomy. Rowlands, Agnes Grant, XVI, Jan. 1923, 48-51.

Confusion of objectives in secondary mathematics. Betz, William, XVI, Dec. 1923, 449-469.

Congruence of circular arcs. Bennett, Albert A., XVII, Oct. 1924, 369-371.
Constitution of algebraic abilities. Thorndike, Edward L., XV, Nov. 1922, 405-415.

Contests. See Games.

Continuity in mathematics and everyday life. Lovitt, W. V., XVII, Jan. 1924, 31-34.

Contributions of mathematics to modern life. Camp, C. C., XXI, April 1928, 219-226.

Controversies on mathematics between Wallis, Hobbes, and Barrow. Cajori, Florian, XXII, March 1929, 146-152.

Correlation of the mathematical subjects develops mathematical power. Stone, Charles A., XVI, May 1923, 302-310.

Council, see National Council.

Course in solid geometry. Austin, William A., XIX, Oct. 1926, 349-361. Craig's edition of Euclid: its "use and application" of the principal propositions given. Rowlands, Agnes Grant, XVI, Nov. 1923, 391-397.

Critical evaluation of individualized instruction in mathematics. Flewelling, Wilma Shaffer, XX, May 1927, 280-285.

Cultural value of mathematics. Howarth, Helen E., XVI, March 1923, 150-156.

Cultural value of mathematics. Kane, Sister M. Gabriel, XV, April 1922, 228-236.

Cultural value of mathematics. Kempner, Aubrey J., XXII, March 1929, 127-145.

Cultural value of mathematics. Rankin, W. W., XXII, April 1929, 215-223.

Cultural value of secondary mathematics. Minnick, John H., XVI, Jan. 1923, 35-40.

Current tendencies in mathematics.

Future development of mathematical education. Moore, Charles N., XV, Dec. 1922, 478-483.

General trend of mathematics education in secondary schools. Reeve, W. D., XVII, Dec. 1924, 449-458.

New mathematics as a part of the new education. "Its nature and function." Downey, Walter F., XXI, April 1928, 239-243.

Outlook with regard to school mathematics. Webber, W. Paul, XIV, Feb. 1921, 78-84.

Present tendencies in high school mathematics. Rorer, Jonathan T., XVII, Jan. 1924, 22-30.

Current practice in junior high school mathematics. Worthington, Edward H., XIX, Feb. 1926, 72-76.

Curriculum.

Articulation of junior and senior high school mathematics. Van Den-

berg, Joseph K., XIV, Feb. 1921, 88-94. Combined mathematics. Webber, W. Paul, XIV, Nov. 1921, 381-386. Composite course for seventh and eighth grade mathematics. Articula-

tion Committee for Mathematics of the Lake Shore Division of the Illinois Teachers' Association, XV, Jan. 1922, 43-48.

Curriculum making: what shall constitute the procedure of national committees? Rugg, Harold, XVII, Jan. 1924, 1-21.

Few determinants in building the course of study in mathematics. Jones, Gertrude, XXII, Nov. 1929, 397-404.

Mathematics as found in society: with curriculum proposals. Symonds, Percival M., XIV, Dec. 1921, 444-450.

Mathematics in Stuyvesant High School. Breckenridge, W. E., XIV, Feb. 1921, 85-87.

Mathematics in the Horace Mann School for Boys. Beatley, Ralph, XIV, April 1921, 189-193.

Need for testing practice in curriculum revision. Edwards, Wm. Herbert, XXII, Oct. 1929, 320-322.

Newer type of mathematics. Swenson, John A., XXII, March 1929, 152-155.

Pennsylvania state course of study in mathematics. Foberg, John A., XVI, May 1923, 266-273.

Report of the committee on mathematics in the state normal school curricula, Pennsylvania. Anderson, R. F., Chairman, XVII, May 1924, 255-262.

Defects remaining in the notation and nomenclature of elementary mathematics. Collins, Joseph V., XVI, March 1923, 157-161.

Definition of similarity. Evans, George W., XV, March 1922, 147-151.

Demonstrative geometry, see Geometry.

Different beginning for plane geometry. Christofferson, H. C., XXI, Dec. 1928, 479-482.

Dinner in honor of Professor David Eugene Smith. Upton, Clifford B., Lao G. Simons, George A. Plimpton, W. E. Stark, M. A. Pilliod, Cassius J. Keyser, David Eugene Smith, XIX, May 1926, 259-281.

Direct cultural motivation for demonstrative geometry. Stroup P., XX, March 1927, 173-177.

Discussion:

Major problem of secondary school algebra. Barber, Harry C., XXI, Jan. 1928, 49-50.

Professor Reeve's objectives in teaching mathematics. Barber, Harry C., XIX, Feb. 1926, 122.

Revision of college preparatory mathematics by Miss Gugle. Stroup, P., XIX, Oct. 1926, 373-374.

Rule for the multiplication of two negative numbers. Hall, John J., XIX, Nov. 1926, 429-432.

Status of geometry. Hart, Howard F., XIX, Feb. 1926, 121-122. True-False examinations. Taylor, Edward, XVIII, Dec. 1925, 498-500.

Drawing for teachers of solid geometry. Bradshaw, John W., I, XVII, Dec. 1924, 475-481; II, XVIII, Jan. 1925, 37-45; III, XIX, Nov. 1926, 400-407.

Dutch textbook of 1730. Simons, Lao G., XVI, Oct. 1923, 340-347.

Earlier place for the calculus in the curriculum. Nordgaard, Martin A., XX, Oct. 1927, 321-327.

Eclipse. McMackin, Frank J., XVIII, May 1925, 298-299.

Editorials. Clark, J. R., and W. H. Metzler, XIV, Jan. 1921, 46-47.

Educational tests—to standardize or not to standardize. Reeve, William David, XXI, Nov. 1928, 369-389.

Effect of certain types of speed drills in arithmetic. Messick, A. I., XIX, Feb. 1926, 104-109.

Elective course in mathematics for the eleventh and twelfth school years. Mirick, Gordon R., and Vera Sanford, XIX, April 1926, 235-241.

Elective course in mathematics for secondary schools: preliminary report by the National Committee, XIV, April 1921, 161-170.

Elementary exposition of the theorem of Bernoulli with applications to statistics. Rietz, H. L., XIV, Dec. 1921, 427-434.

"Elementary geometry" and "the foundations." Webb, H. E., XIX, Jan. 1926, 1-12.

Empirical results in the theory of numbers. Carmichael, R. D., XIV, Oct. 1921, 305-310.

Empirical theorems in Diophantine analysis. Carmichael, R. D., XVI, May 1923, 257-265.

Errors in computations and the rounded number. Rice, Harris, XV, Nov. 1922, 392-404.

Esthetics and mathematics. Smith, David Eugene, XX, Dec. 1927, 419-428. Evolution of numbers—an historical drama in two acts. Slaught, H. E., XXI, Oct. 1928, 305-315.

Example of geometry teaching by the laboratory method. Shippy, Van Zandt, XVII, May 1924, 286-287.

Experimental courses in secondary school mathematics. Schorling, Raleigh, XV, Feb. 1922, 63-78.

Experimental geometry. Harper, G. A., XV, March 1922, 157-163.

Experiment comparing the efficiency of general mathematics with algebra and geometry. Burks, W. D., XVII, Oct. 1924, 343-349.

Experiment in classification of pupils in algebra. Price, L., XVI, Jan. 1923, 24-28.

Experiment in testing and classifying pupils in beginning algebra. Austin, C. M., XVII, Jan. 1924, 46-56.

Extension of concepts in mathematics. Kempner, Aubrey J., XVI, Jan. 1923, 1-23.

Extraneous details. Sanford, Vera, XXI, Feb. 1928, 83-91.

Fads and plane geometry. Merrell, H. D., XX, Jan. 1927, 5-18. Failures.

Ten reasons why pupils fail in mathematics. Osburn, W. J., XVIII, April 1925, 234-238.

Falling in love with plain geometry. Hatton, Caroline, and Doris H. Smith, XX, Nov. 1927, 389-402.

Fanciful hypotheses on the origin of the numeral forms. Cajori, Florian, XVIII, March 1925, 129-133.

Fate and freedom. Korzybski, Alfred, XVI, May 1923, 274-290.

Few classroom devices to stimulate interest in mathematics. Rabourn, Sara B. F., XX, Oct. 1927, 328-333.

Few constructive phases of mathematics in life. Webber, W. Paul, J. P. Cole, and R. L. O'Quin, XIX, Dec. 1926, 449-455.

Few determinants in building the course of study in mathematics. Jones, Gertrude, XXII, Nov. 1929, 397-404.

Few lessons in calculus for high schools. Goff, Robert R., XV, April 1922, 307-308.

Figures. Hunter, William L., XVII, Oct. 1924, 367.

Finding plane areas by algebra. Reynolds, Joseph B., XXI, April 1928, 197-203.

First aid in algebraic fractions. Fezandié, Margaret, XIX, Feb. 1926, 101. First lessons in demonstrative geometry. Newell, M. J., and G. A. Harper, XIV, Jan. 1921, 42-45.

Form of the universe. Smith, David Eugene, XXI, Feb. 1928, 107-110.
Formula for conjunction problems. Huffman, Pleasant, XV, March 1922, 184.

Formula in ninth grade algebra. Kinney, J. M., XIV, Nov. 1921, 367-380.
 Formula in secondary education. Bigelow, O. H., XXI, Dec. 1928, 442-453.
 Four fundamental arithmetical processes in adults. Helseth, Inga Olla, XX, May 1927, 265-273.

Four years of mathematics for commercial pupils. Hussey, Frederick K., XVII, Nov. 1924, 411-421.

Fourth dimension.

Fourth dimension and hyperspace. Tromp, Theresa, XIX, March 1926, 140-146.

Reflections on fourth dimension. Altieri, A. M., XVIII, Dec. 1925, 490-495.

Fourth dimension and hyperspace. Tromp, Theresa, XIX, March 1926, 140-146.

Freshman college mathematics.

Analysis of freshman college mathematics. Watson, E. E., XIX, Nov. 1926, 408-410.

How much elementary algebra is remembered by freshmen when entering college? Eells, Walter Crosby, XIX, April 1926, 206-213. Human significance of mathematics. Schaaf, William L., XIX, Dec.

1926, 472-483.

Inductive method in junior college mathematics. Christofferson, H. C., XIX, April 1926, 202-205.

Romance in science. Miller, Bessie Irving, XV, Nov. 1922, 416-422. Textbooks in unified mathematics for college freshmen. Sanford, Vera, XVI, April 1923, 206-214.

What amount of algebra is retained by college freshmen? Eells, Walter Crosby, XVIII, April 1925, 219-225.

From the shelves of Dr. David Eugene Smith's unique mathematical historical library. Refior, Sophia R., XVII, May 1924, 269-273.

Function concept in high school mathematics. Kinney, J. M., XV, Dec. 1922, 484-495.

Functionality in mathematical instruction in schools and colleges. Hedrick, E. R., XV, April 1922, 191-207.

Functions.

Function concept in high school mathematics. Kinney, J. M., XV, Dec. 1922, 484-495.

Functionality in mathematical instruction in schools and colleges. Hedrick, E. R., XV, April 1922, 191-207.

Functions in general and the function [x] in particular. Carver, Walter B., XX, Dec. 1927, 429-434.

Graph as a means of picturing relationships. Christofferson, H. C., XXI, April 1928, 227-238.

Lesson of Dependence. Smith, David Eugene, XXI, April 1928, 214-218.

Professor Hedrick's report on the function concept in elementary mathematics. Webb, Harrison E., XV, Oct. 1922, 364-368.

Supplementary project in functional graphs. Georges, J. S., XIX, March 1926, 174-178.

Use of the function concept in first year algebra. Booher, Eleanor E., XIX, Feb. 1926, 86-98.

Functions in general and the function [x] in particular. Carver, Walter B., XX, Dec. 1927, 429-434.

Functions of intuitive and demonstrative geometry. Blank, Laura, XXII, Jan. 1929, 31-37.

Fundamental principles of algebra, Modesitt, P. I., XV, Oct. 1922, 332.

Fundamental principles of algebra. Modesitt, R. L., XV, Oct. 1922, 332-346.

Future development of mathematical education. Moore, Charles N., XV, Dec. 1922, 478-483.

Future of secondary instruction in geometry. Webb, Harrison E., XIV, Oct. 1921, 337-341.

Games

Mathematical contest. Walker, Helen M., XX, May 1927, 274-279.

Mathematical games. Raster, Alfreda, XVII, Nov. 1924, 422-425.

General mathematics.

Advantages of a general course in mathematics for the first two years in high school. McCoy, Louis A., XVI, Nov. 1923, 421-424.

Case for general mathematics. Reeve, William David, XV, Nov. 1922, 381-391.

Combined mathematics. Webber, W. Paul, XIV, Nov. 1921, 381-386. Experiment comparing the efficiency of general mathematics with algebra and geometry. Burks, W. D., XVII, Oct. 1924, 343-349.

General mathematics. Schorling, Raleigh, XX, Feb. 1927, 65-81.

Influence of general mathematics on the subject matter of mathematics and on the theory and technique of the teaching of mathematics. Blank, Laura, XXI, Oct. 1928, 316-325.

Unified mathematics in secondary schools. Jones, Gertrude, XVII, May 1924, 290-300.

General mathematics. Schorling, Raleigh, XX, Feb. 1927, 65-81.

General trend of mathematics education in secondary schools. Reeve, William David, XVII, Dec. 1924, 449-458.

Generalization, Lytle, Ernest B., XXII, Jan. 1929, 18-22.

Geometric aids for elementary algebra. Wannenmacher, Alberta S., XXII, Jan. 1929, 49-57.

Geometry, see also fourth dimension, investigations, objectives, psychology, tests.

College entrance.

Beginning geometry and college entrance. Beatley, Ralph, XXI, Jan. 1928, 42-45.

First lessons in.

Different beginning for plane geometry. Christofferson, H. C., XXI, Dec. 1928, 479-482.

First lessons in demonstrative geometry. Newell, M. J., and G. A. Harper. XIV, Jan. 1921, 42-45.

Geometry detected by Sherlock Holmes. Hedges, Blanche B., XIV, March 1921, 128-136.

Introducing Mechalus to geometry. Potter, Mary A., XV, Oct. 1922, 357-360.

Introduction to the study of geometry. Hefferman, John K., XIX, Feb. 1926, 78-80.

Number of things for beginners in geometry. Richmond, Vesta A., XX, March 1927, 142-149.

Pleasant approach to demonstrative geometry. Sadley, E. V., XIX, Dec. 1926, 484-486.

Proving the equality of the base angles of an isosceles triangle. Nyberg, Joseph A., XXII, Oct. 1929, 318-319.

Teaching of beginning geometry. Schwartz, A. J., XV, May 1922, 265-282.

Historical considerations.

"Elementary geometry" and the "foundations." Webb, H. E., XIX, Jan. 1926, 1-12.

Heresy and orthodoxy in geometry. Evans, George W., XIX, April 1926, 195-201.

Postulates and sequence in Euclid. Evans, George W., XX, Oct. 1927, 310-320.

Intuitive geometry.

Concerning orientation and application in geometry. Ziegler, D. G., XXII, Feb. 1929, 109-116.

Functions of intuitive and demonstrative geometry. Blank, Laura, XXII, Jan. 1929, 31-37.

Non-Euclidian geometry.

Non-Euclidean geometry. Bussey, W. H., XV, Dec. 1922, 445-459. Some varieties of space. Martin, Emilie N., XVI, Dec. 1923, 470-480.

Originals in geometry.

Original solution in plane geometry. Laird, Robert A., XV, Oct. 1922, 361-363.

Proof of an original exercise. Beyer, Walter, XX, Feb. 1927, 91-92. Student difficulties in exercises in geometry. Perry, Winona M., XVIII, Feb. 1925, 79-82.

Solid geometry.

Course in solid geometry. Austin, William A., XIX, Oct. 1926, 349-361. Drawing for teachers of solid geometry. Bradshaw, John W., XVII, I, Dec. 1924, 475-481; II, XVIII, Jan. 1925, 37-45; III, XIX, Nov. 1926, 400-407.

Popularizing plane and solid geometry. Pratt, Gertrude V., XXI, Nov. 1928, 412-421.

Radio and airplane distance. Nygaard, P. H., XXII, Feb. 1929, 117-120. Some applications of algebra to theorems in solid geometry. Reynolds, Joseph B., XVIII, Jan. 1925, 1-9.

"Steradians" and spherical excess. Evans, George W., XV, Nov. 1922, 429-433.

Study of the cultivation of space imagery in solid geometry through the use of models. Schreiber, Edwin W., XVI, Feb. 1923, 102-111.

Tennis ball geometry. Hart, Howard F., XV, April 1922, 239-240. Volume of a sphere. Jackman, Alonzo. Edited by C. H. Spooner. XV, Feb. 1922, 90-92.

Special topics in demonstrative geometry.

Applications of indeterminate equations to geometry. Tripp, M. O., XXI, May 1928, 268-272.

Assumptions and proofs. Stabler, E., Russell, XXI, Jan. 1928, 46-48. "Attack" in propositions on inequality of lines. Haas, Arthur, XIX, April 1926, 228-234.

Congruence of circular areas. Bennett, Albert A., XVII, Oct. 1924, 369-371.

Finding plane areas by algebra. Reynolds, Joseph B., XXI, April 1928, 197-203.

Historic theorem in plane geometry. Carnahan, W. H., XV, Dec. 1922, 496.

Locophobia, its cause and cure. Selleck, George H., XXII, Nov. 1929, 382-389.

Proof of the Pythagorean theorem. Evans, George W., XVI, Nov. 1923, 440.

Proof of the theorem of Pythagoras. Knoer, Alvin, XVIII, Dec. 1925, 496-497.

Teaching incommensurables. Sanford, Vera, XIV, March 1921, 147-150. Teaching of locus problems in elementary geometry. Aldrich, Fred D., XIV, April 1921, 200-205.

Teaching of proportion in plane geometry. Good, Warren R. and Hope H. Chipman. XXI, Dec. 1928, 454-464.

Why it is impossible to trisect an angle or to construct a regular polygon of 7 or 9 sides by ruler and compasses. Dickson, Leonard Eugene, XIV, May 1921, 217-223.

Teaching of geometry.

Comments on the teaching of geometry. Touton, Frank C., XIV, May 1921, 246-251.

Definition of similarity. Evans, George W., XV, March 1922, 147-151. Direct cultural motivation for demonstrative geometry. Stroup, P., XX, March 1927, 173-177.

Discussion (status of geometry). Hart H. F., XIX, Feb. 1926, 121-122. Example of geometry teaching by the laboratory method. Shippy, Van Zandt, XVII, May 1924, 286-287.

Experimental geometry. Harper, G. A., XV, March 1922, 157-163. Fads and plane geometry. Merrell, H. D., XX, Jan. 1927, 5-18. Future of secondary instruction in geometry. Webb, Harrison E., XIV, Oct. 1921, 337-341.

Geometry notes. Moriarity, M. M. S., XXI, May 1928, 280-291. Is geometry possible? Statham, Jeanette F., XXI, Oct. 1928, 353-356. Laboratory method in teaching of geometry. Austin, C. A., XX, May 1927, 286-294.

Looking backward. McCullough, H. L., XX, Nov. 1927, 386-388.

Purpose, method, and mode of demonstrative geometry. Hart, W. W., XVII, March 1924, 170-177.

Reviews in geometry. Murphy, L. W., XVI, Nov. 1923, 440-441. Sequence of theorems in school geometry. Nunn, T. P., XVIII, Oct. 1925, 321-332.

Some pedagogical aspects of geometry teaching. Sykes, Mabel, XX, Dec. 1927, 466-472.

Some suggestions on the technique of teaching plane geometry. Cowley, E. B., XX, Nov. 1927, 370-374.

Suggestions on conducting the recitation in geometry. Hassler, Jasper O., XIX, Nov. 1926, 411-418.

Teaching geometry into its rightful place. Hassler, J. O., XXII, Oct. 1929, 333-341.

Teaching plane geometry without a textbook. Strong, Theodore, XIX, Feb. 1926, 115-119.

Technique and devices conducive to better teaching of geometry. Blank, Laura, XXI, March 1928, 171-181.

Two methods of teaching geometry: syllabus vs. textbook. Ryan, James D., XXI, Jan. 1928, 31-36.

What are the real values of geometry? Perry, Winona M., XXI, Jan. 1928, 51-54.

When is a proof not a proof? Stroup, P., XIX, Dec. 1926, 499-505. Topics from modern geometry.

Circles through notable points of the triangle. Morris, Richard, XXI, Feb. 1928, 63-71.

Isotomic points of the triangle. Morris, Richard, XXI, March 1928, 163-170.

Stewart's theorem, with applications. Morris, Richard, XXI, Dec. 1928, 465-478.

Geometry as a course in reasoning. McLaughlin, Henry P., XVI, Dec. 1923, 493-499.

Geometry detected by Sherlock Holmes. Hedges, Blanche B., XIV, March 1921, 128-136.

Geometry humanized. A school play in one act. Scott, Erma. XXI, Feb. 1928, 91-101.

Geometry notes. Moriarity, M. M. S., XXI, May 1928, 280-291.

Geometry of the junior high school. Brown, J. C., XIV, Feb. 1921, 64-70. Geometry speaks. Palmer, Eva M., XV, Dec. 1922, 496-500.

Graph as a means of picturing relationships. Christofferson, H. C., XXI, April 1928, 227-238.

Graphs as a part of cooperative mathematics. Durell, Fletcher, XXII, Feb. 1929, 65-79.

Great mathematician as a schoolboy. Smith, David Eugene, and Vera Sanford, XIV, Nov. 1921, 362-366.

Grouping in geometry classes. Weismann, H., XXII, Feb. 1929, 93-108. Grouping pupils according to ability. Werremeyer, D. W., XV, April 1922, 237-239.

Greetings from the New England Association of Teachers of Mathematics. Vosburgh, W. L., XXI, Oct. 1928, 347-349.

Habit in the education process. Webber, W. Paul, XVII, April 1924, 202-208.

Handling problems in arithmetic by type. Moore, Charles D., XXII, Nov. 1929, 427-428.

Has algebra certain real values for the high school student of today? Perry, Winona M., XX, Nov. 1927, 403-406.

Heresy and orthodoxy in geometry. Evans, George W., XIX, April 1926, 195-201.

High school mathematics clubs. Reed, Zulu, XVIII, Oct. 1925, 341-363. Higher mathematics, see also history of mathematics, statistics.

Applications of indeterminate equations to geometry. Tripp, M. O., XXI, May 1928, 268-272.

Classification of positive integers as regards the ultimate sum of their digits. Miller, G. A., XVI, April 1923, 247-248.

Elementary exposition of the theorem of Bernoulli with applications to statistics. Rietz, H. L., XIV, Dec. 1921, 427-434.

Empirical results in the theory of numbers. Carmichael, R. D., XIV, Oct. 1921, 305-310.

Empirical theorems in Diophantine analysis. Carmichael, R. D. XVI, May 1923, 257-265.

Mechanics. Mirick, Gordon R., XVI, Feb. 1923, 87-93; April 1923, 236-241; May 1923, 291-294.Scales of notation. Mirick, Gordon R., and Vera Sanford, XVIII,

Dec. 1925, 465-471. Historic theorem in plane geometry. Carnahan, W. H., XV, Dec. 1922,

496.

Historical account of origin and growth of the National Council of Teach-

ers of Mathematics. Austin, C. M., XXI, April 1928, 204-213.

History of mathematics.

Absurdities due to division by zero. Cajori, Florian, XXII, Oct. 1929, 366-368.

Arithmetical productiveness of utilitarian, social and scientific ideals; viewed historically. Myers, G. W., XX, Feb. 1927, 93-100.

Controversies on mathematics between Wallis, Hobbes, and Barrow. Cajori, Florian, XXII, March 1929, 146-152.

Dutch textbook of 1730. Simons, Lao Genevra, XVI, Oct. 1923, 340-347. Fanciful hypotheses on the origin of the numeral forms. Cajori, Florian, XVIII, March 1925, 129-133.

From the shelves of Dr. David Eugene Smith's unique mathematical historical library. Refior, Sophia R., XVII, May 1924, 269-273.

Great mathematician as a school boy. Smith, David Eugene and Vera Sanford, XIV, Nov. 1921, 362-366.

La Disme of Simon Stevin—the first book on decimals. Sanford, Vera, XIV, Oct. 1921, 321-333.

Oldest algorism in the French language. Houghtaling, Anna Elizabeth and Frances Marguerite Clarke, XIX, March 1926, 179-183.

Origin and development of our present method of extracting the square and cube roots of numbers. Nordgaard, Martin A., XVII, April 1924, 223-238.

Origin of our numerals. Sherman, Charles Pomeroy, XVI, Nov. 1923, 398-401.

Permutations in the 16th century Cabala. Turetsky, Morris, XVI, Jan. 1923, 29-34.

Place of the history and recreations of mathematics in teaching algebra and geometry. Simons, Lao G., XVI, Feb. 1923, 94-101.

Rabbi ben Ezra on permutations and combinations. Ginsburg, Jekuthiel, XV, Oct. 1922, 347-356.

Robert Recorde. Cajori, Florian, XV, May 1922, 294-302.

Romance of mathematics. Slaught, H. E., XX, Oct. 1927, 303-309.

Significant facts in the history of the metric system for teachers of junior and senior high school mathematics. Schreiber, Edwin W., XXII, Nov. 1929, 373-381.

Some lovers of the conic sections. Chapin, Margaret L., XIX, Jan. 1926, 36-45.

Use of mathematical history in teaching. Hassler, J. O., XXII, March 1929, 166-171.

Value of the history of Greek mathematics to secondary school teachers. Eells, Walter Crosby, XVIII, May 1925, 296-297.

Homogeneous grouping.

Ability classification in ninth grade algebra. Mensenkamp, L. E., XXII, Jan. 1929, 38-48.

Ability grouping in mathematical classes. Durell, Fletcher, XXI, Nov. 1928, 398-411.

Ability grouping of students in senior high school mathematics. Weimar, M. Bird, XXI, Feb. 1928, 102-106.

Adapting plane geometry to pupils of limited ability. Hildebrandt, Martha, XVIII, Feb. 1925, 102-110.

Adjusting algebra to ability levels through the time element. Cline, Jessie M., XXII, Oct. 1929, 309-317.

Adjusting the course of study in ninth grade mathematics to the ability of the pupil. Beck, Hildegarde, XXI, Jan. 1928, 24-30.

Changes in subject matter and method to fit different ability groups in mathematics. Price, Lillis, XVII, Dec. 1924, 495-499.

Classification of pupils in algebra. Harnish, Walter E., XVII, Jan. 1924, 58.

Experiment in classification of pupils in algebra. Price, L., XVI, Jan. 1923, 24-28.

Experiment in testing and classifying pupils in beginning algebra. Austin, C. M., XVII, Jan. 1924, 46-56.

Grouping in geometry classes. Weismann, H., XXII., Feb. 1929, 93-108. Grouping pupils according to ability. Werremeyer, D. W., XV, April 1922, 237-239.

Hotz algebra scales in the Pacific Northwest. Eells, Walter Crosby, XVIII, Nov. 1925, 418-427.

How Alice made Pi Mu Epsilon. Shaw, James B., XX, Oct. 1927, 344-348.
How can I bring the soul of mathematics to my pupils? Huntington, Albert H., XV, March 1922, 164-171.

How mathematical clubs and associations may become affiliated with the National Council of Teachers of Mathematics. XXI, Nov. 1928, 422-426.

How much elementary algebra is remembered by freshmen when entering college? Eells, Walter Crosby, XIX, April 1926, 206-213.

How to figure averages with the top of a shoe box; or the use of an alignment chart in averaging. Roberts, J. A., XVII, Dec. 1924, 471-474.
Human significance of mathematics. Schaaf, William L., XIX, Dec. 1926, 472-483.

Human worth of rigorous thinking. Keyser, Cassius J., XV, Jan. 1922, 1-5.

Human interest put into mathematics. Leacock, Stephen, XXII, May 1929, 302-304.

Humor.

How Alice made Pi Mu Epsilon. Shaw, James B., XX, Oct. 1927, 344-348. Human interest put into mathematics. Leacock, Stephen, XXII, May 1929, 302-304.

Pursuit of zero. Rounds, Emma, XVII, Oct. 1924, 365-367. "If." Ruth L. Snyder. XXII, Dec. 1929, 482-486.

Imagination in mathematics. Lovitt, W. V., XVII, May 1924, 263-268.
Importance of mathematics. Davis, Alfred L., XVI, Nov. 1923, 441-442.
Important contribution to the teaching of mathematics. Clark, John R., XIX, April 1926, 193-194.

Improvement in algebra teaching. McCain, A. B., XIX, Feb. 1926, 112-114.
Improvements in teaching algebra and geometry made possible by the new college board requirements. Elicker, Paul E., XVIII, March 1925, 164-170.

Individual instruction.

Critical evaluation of individualized instruction in mathematics. Flewelling, Wilma Schaffer, XX, May 1927, 280-285.

Individual instruction in ninth year algebra. Stokes, C. N., XVIII, April 1925, 209-218.

Individualized instruction in geometry. Potter, Mary A., XIX, April 1926, 219-227.

Individual work in algebra. Cooke, Martha C., XXII, Oct. 1929, 361-365. Middle of the road. Snyder, W. A., XX, Feb. 1927, 112-122.

Study of mathematics under the individual system. Reese, Mary M., XV, Dec. 1922, 460-466.

Vectors for beginners. Reynolds, Joseph B., XIV, Nov. 1921, 355-361. Individual instruction in ninth year algebra. Stokes, C. N., XVIII, April 1925, 209-218.

Individualized instruction in geometry. Potter, Mary A., XIX, April 1926, 219-227. Individual work in algebra. Cooke, Martha C., XXII, Oct. 1929, 361-365. Inductive method in junior college mathematics. Christofferson, H. C.,

XIX, April 1926, 202-205.

Influence of general mathematics on the subject matter of mathematics and on the theory and technique of the teaching of mathematics. Blank, Laura, XXI, Oct. 1928, 316-325.

Influence of standardized tests on the curriculum in arithmetic. Upton,

Clifford B., XVIII, April 1925, 193-208.

Informal tests for diagnosis and remedial teaching in mathematics. Spencer, Peter L., XVI, March 1923, 175-182.

Informational mathematics versus computational mathematics. Judd, Charles H., XXII, April 1929, 187-197. Errata, Oct. 1929, 332.

International mathematical congress. Mirick, G. R., XVII, Oct. 1924, 379-383.

Interest of pupils in high school mathematics and factors in securing it. Davis, Alfred, XX, Jan. 1927, 26-38.

Interesting circulating decimal. Hirsdansky, Simon, XVII, Jan. 1924, 57-58.

Interplay of mathematics and English. Macdonald, Louise Anderson, XVIII, April 1925, 284-295.

Introducing Mechalus to geometry. Potter, Mary A., XV, Oct. 1922, 357-360.

Introduction to the infinite. Smith, David Eugene, XXI, Jan. 1928, 1-9.
Introduction to the study of geometry. Hefferman, John K., XIX, Feb. 1926, 78-80.

Investigation in the teaching of the skills of ninth grade algebra. Schorling, Raleigh and Selma A. Lindell, XVIII, Oct. 1925, 375-377.

Investigations

Analysis of the learning units in n processes in algebra. Pease, Glenn R., XXII, May 1929, 245-283.

Causes of failure in plane geometry as related to mental ability. Crafts, Lilian L., XVI, Dec. 1923, 481-492.

Comparison of two methods of arithmetic problem analysis. Clark, John R. and E. Leona Vincent, XVIII, April 1925, 226-233.

Investigation in the teaching of the skills of ninth grade algebra. Schorling, Raleigh and Selma A. Lindell, XVIII, Oct. 1925, 375-377.

Study of a pupil's knowledge of algebra at the beginning of his junior year in high school. Mirick, Gordon R., and Vera Sanford, XVIII, March 1925, 171-181.

Study of the errors made in a ninth year algebra class. Wattawa, Virginia, XX, April 1927, 212-222.

Study of the factors of success in first year algebra. Schreiber, Edwin W., XVIII, Feb. 1925, 63-78; March 1925, 141-163.

Is geometry possible? Statham, Jeanette F., XXI, Oct. 1928, 353-356.
Isotomic points of the triangle. Morris, Richard, XXI, March 1928, 163-170.

Japanese problems. Hiyama, Shige, XVI, Oct. 1923, 359-365.

Junior high school, see also general mathematics.

Articulation of junior and senior high-school mathematics. Van Denberg, Joseph K., XIV, Feb. 1921, 88-94.

Certain mathematical ideals of the junior high school. Smith, David Eugene, XIV, March 1921, 124-127.

Composite course for seventh and eighth grade mathematics. Articulation Committee for Mathematics of the Lake Shore Division of Illinois Teachers' Association, XV, Jan. 1922, 43-48.

Current practice in junior high school mathematics. Worthington, Edward H., XIX, Feb. 1926, 72-76.

Geometry of the junior high school. Brown, J. C., XIV, Feb. 1921, 64-70.

Individual work in algebra. Cooke, Martha C., XXII, Oct. 1929, 361-365.

Junior high school mathematics in Newton, Mass. Tracy, Sarah E., XVIII, March 1925, 134-140.

Maintenance of fundamental arithmetical skills in the junior high school. Benz, H. E., XXI, Oct. 1928, 326-335.

Mathematics in the junior high school. Clark, John R., XVIII, May 1925, 257-283.

Mathematics in the junior high school. Taylor, E. H., XX, April 1927, 223-235.

Mathematics plus. Miller, Florence Brooks, XXII, April 1929, 224-231.
 Next step for the administrator in junior high school mathematics. Van Denberg, Joseph K., XV, Jan. 1922, 28-29.

Next step in content in junior high school mathematics. Smith, David Eugene, XV, Jan. 1922, 26-27.

Place of mathematics in junior high school education. Rowlands, Agnes, XXII, Oct. 1929, 323-332.

Prescribed versus elective mathematics in junior high schools. Snedden, David, XV, Feb. 1922, 105-109.

Program of investigation and cooperative experimentation in the mathematics of the seventh, eighth, and ninth school years. Schorling, Raleigh and John R. Clark, XIV, May 1921, 264-275.

Reorganized course in junior high school arithmetic. Brooks, Florence M., XIV, April 1921, 179-188.

Unitary organization of the mathematics of the seventh, eighth and ninth grades. Breslich, E. R., XVI, April 1923, 228-235.

What the state teachers college means to Bemidji financially. Rice, Mabel Frances, XXII, Oct. 1929, 342-347.

Junior high school mathematics in Newton, Mass. Tracy, Sarah E., XVIII, March 1925, 134-140.

Laboratory method in teaching of geometry. Austin, C. A., XX, May 1927, 286-294.

Laboratory method of teaching mathematics in the classroom. Stone, Charles A., XVII, April 1924, 209-222.

La Disme of Simon Stevin—the first book on decimals. Sanford, Vera, XIV, Oct. 1921, 321-333.

Layman looks at mathematics. French, John R. P., XXII, Oct. 1929, 348-360.

Lesson of dependence. Smith, David Eugene, XXI, April 1928, 214-218. Lest we forget. Lindquist, Theodore, XX, Nov. 1927, 375-380.

List of reference books and magazines for teachers of mathematics. Reeve, W. D., XV, May 1922, 303-307.

Little journey to the land of mathematics. Crawford, Alma E., XVII, Oct. 1924, 336-342.

Live problem material in algebra. Davis, Dwight S., XVI, Nov. 1923, 402-413.

Locophobia, its cause and cure. Selleck, George H., XXII, Nov. 1929, 382-389.

Logic.

Brief study of non-mathematical logic. Lennes, N. J., XVI, April 1923, 242-246.

Logic of mathematical processes. Sloctemyer, Hugo F., XVI, March 1923, 162-169.

Logic of mathematical processes. Sloctemyer, Hugo F., XVI, March 1923, 162-169.

Looking backward. McCullough, H. L., XX, Nov. 1927, 386-388.

Magic circles. Sanford, Vera, XVI, Oct. 1923, 348-349.

Maintenance of fundamental arithmetical skills in the junior high school. Benz, H. E., XXI, Oct. 1928, 326-335.

Making mathematics interesting. Barnes, Augusta, XVII, Nov. 1924, 404-410.

Marks in mathematics.

Reliability of teachers' marks. Shriner, Walter O., XVII, Nov. 1924, 426-443.

"Math." Hunter, William L., XIX, Feb. 1926, 77.

Mathematical contest. Walker, Helen M., XX, May 1927, 274-279.

Mathematical games. Raster, Alfreda, XVII, Nov. 1924, 422-425.

Mathematical nightmare. Skerrett, Josephine, XXII, Nov. 1929, 413-417.

Mathematical Descrives. R. M. Winger, XXII, Dec. 1929, 462-466.

Mathematical recreations. Pierce, Martha, XIX, Jan. 1926, 13-24.

Mathematics and modern life. Olds, George B., XXI, April 1928, 183-196.
Mathematics and modern life: the challenge and the opportunity. Barber,
Harry C., XXI, Oct. 1928, 350-352.

Mathematics and science. Neville, Harvey A., XX, Jan. 1927, 19-25.

Mathematics and sunshine. Slaught, H. E., XXI, May 1928, 245-252.

Mathematics and the future. Moore, Charles N., XXII, April 1929, 203-214.

Mathematics as found in society: with curriculum proposals. Symonds, Percival M., XIV, Dec. 1921, 444-450.

Mathematics as used by the actuary. Laird, John M., XVI, Dec. 1923, 500-503.

Mathematics club. Hatton, Mary Caroline, XX, Jan. 1927, 39-45.

Mathematics clubs. Russell, Helen G.; Myrtle H. Duncan; Minerva Gulden, Rebecca Symmes; Mary Derby, XVII, May 1924, 283-285; Oct. 1924, 350-358.

Mathematics clubs in the high school. Refior, Sophia R., XV, Nov. 1922, 434-435.

Mathematics club program. Wheeler, Albert Harry, XVI, Nov. 1923, 385-390.

Mathematics in industry and research. Martin, E. J., XXII, Mar. 1929, 172-177.

Mathematics in methods. Beatley, Ralph, XVIII, Nov. 1925, 428-432.

Mathematics in modern business. Clarke, Edith, XXI, May 1928, 259-267. Mathematics in other countries.

Comparison of the mathematics in the secondary schools of Germany and England and the training of teachers of secondary mathematics in these countries with the United States. James H. Zant. XXII, Dec. 1929, 447-461.

New types of schools in Germany and their curricula in mathematics. Lietzmann, W., XVII, March 1924, 148-153.

Teaching of mathematics in an English secondary school. Brown, Margaret, XIX, Jan. 1926, 30-35.

Teaching of mathematics in Germany since the war. (Translated by Ralph Beatley.) Malsch, Fritz, XX, Nov. 1927, 355-369.

Teaching of secondary mathematics in Holland. Schrek, J. E., XIX, Oct. 1926, 329-342.

Mathematics in science. Tyler, H. W., XXI, May 1928, 273-279.

Mathematics in the Horace Mann School for Boys. Beatley, Ralph, XIV, April 1921, 189-193.
Mathematics in the junior high school. Clark, John R., XVIII, May 1925,

257-283.

Mathematics in the junior high school. Taylor, E. H., XX, April 1927, 223-235.

Mathematics in the professions.

Mathematics as used by the actuary. Laird, John M., XVI, Dec. 1923, 500-503.

Mathematics in Stuyvesant High School. Breckenridge, W. E., XIV, Feb. 1921, 85-87.

Mathematics of the calculating machine. Locke, L. Leland, XVII, Feb. 1924, 78-86.

Mathematics one hundred years ago. Meserve, Harrison G., XXI, Oct. 1928, 336-343.

Mathematics plus. Miller, Florence Brooks, XXII, April 1929, 224-231. Mathematics teacher's creed. Percival, W. P., XIX, March 1926, 184.

Mathesis. Brownell, Ella, XX, Dec. 1927, 459-465.

Measuring achievement in first year algebra. Douglass, Harl R., XVI. Nov. 1923, 414-420.

Mechanics. Mirick, Gordon R., XVI, Feb. 1923, 87-93; April 1923, 236-241; May 1923, 291-294.

Meeting the attacks on algebra. Quigley, Mary J., XIX, March 1926, 155-161.

Members of National Council of Teachers of Mathematics. XX, Jan. 1927, 61-64.

Members of the Association of Teachers of Mathematics in New England. XVII, April 1924, 245-253.

Members of the National Council of Teachers of Mathematics. XVIII,
March 1925, 186-190; April 1925, 250-253; May 1925, 314-319; Oct.
1925, 380-381; Nov. 1925, 445-446; Dec. 1925, 507-509. XIX, Jan.
1926, 64; Feb. 1926, 124-125; March 1926, 187-191; April 1926, 253-256;
May 1926, 313-318; Oct. 1926, 381-382; Nov. 1926, 446-447; Dec. 1926,
509.

Memory and marks in mathematics. Luccock, Ethel, XVII, May 1924, 274-282.

Middle of the road. Snyder, W. A., XX, Feb. 1927, 112-122.

Minimum mathematical requirements for agricultural study. Roe, H. B., XV, Jan. 1922, 30-42.

Minutes of Chicago meeting of the National Council of Teachers of Mathematics, February 23, 1924. XVII, May 1924, 301-304.

Minutes of the eighth annual meeting of the National Council of Teachers of Mathematics, Dallas, Texas. XX, Nov. 1927, 407-411.

Minutes of Meeting of the National Council of Teachers of Mathematics held at Cincinnati, February 21, 1925. XVIII, April 1925, 242-245. Minutes of Meeting of National Council of Teachers of Mathematics held

at Cleveland, February 28, 1923. XVI, April 1923, 251-256.

Minutes of the Meeting of the National Council of Teachers of Mathematics held in the Raleigh Hotel, Saturday, February 20, 1926. XIX, April 1926, 242-248.

National Committee on Mathematics Requirements.

College entrance requirements in mathematics: preliminary report of The National Committee. XIV, May 1921, 224-245.

Experimental courses in secondary school mathematics. Schorling, Raleigh, XV, Feb. 1922, 63-78.

Remarks on the report of The National Committee on Mathematical Requirements on college entrance requirements. Hedrick, E. R.; H. D. Gaylord; XIV, March 1921, 137-142.

Symposium of discussion on the National Committee Report on Junior High School Mathematics. Breslich, E. R., 23-26; Marie Gugle, 26-28; William Betz, 28-35; C. B. Walsh, 35-37; Raleigh Schorling, 37-41; XIV, Jan. 1921, 16-41.

Work of The National Committee on Mathematical Requirements. Young, J. W., XIV, Jan. 1921, 5-15.

National Council of Teachers of Mathematics-organization, members, program, yearbooks.

Announcements. XXI, Jan. 1928, 60-61.

Annual meeting of the National Council. XXI, Nov. 1928, 426.

Annual meeting of the National Council of Teachers of Mathematics. XVIII, Jan. 1925, 59-60; Feb. 1925, 125-126.

Annual meeting of the National Council of Teachers of Mathematics, XXII, Feb. 1929, 121-123.

Attendance at Dallas meeting of the National Council of Teachers of Mathematics. XX, May 1927, 295-299.

By-laws of the National Council of Teachers of Mathematics (Incorporated). XXI, Jan. 1928, 18-23.

Checking up the prophets. Evans, George W., XIX, Oct. 1926, 362-365. Chicago meeting of the National Council of Teachers of Mathematics.

XV, Jan. 1922, 59-61; April 1922, 246-251. Communications. Minnick, J. H., XIV, April 1921, 206.

Contents of first yearbook. XIX, April 1926, 249.

First yearbook of the National Council of Mathematics Teachers. XVIII, Oct. 1925, 378-379.

Fourth annual meeting of the National Council of Teachers of Mathematics. XVI, Jan. 1923, 59; Feb. 1923, 128.

Historical account of origin and growth of the National Council of Teachers of Mathematics. Austin, C. M., XXI, April 1928, 204-213.

How mathematical clubs and associations may become affiliated with the National Council of Teachers of Mathematics. XXI, Nov. 1928, 422-426.

Important contribution to the teaching of mathematics. Clark, John R., XIX, April 1926, 193-194.

Members of National Council. XX, Jan. 1927, 61-64.

Members of the Association of Teachers of Mathematics in New Eng-

land. XVII, April 1924, 245-253.

Members of the National Council of Teachers of Mathematics. XVIII, March 1925, 186-190; April 1925, 250-253; May 1925, 314-319; Oct. 1925, 380-381; Nov. 1925, 445-446; Dec. 1925, 507-509. XIX, Jan. 1926, 64; Feb. 1926, 124-125; March 1926, 187-191; April 1926, 253-256; May 1926, 313-318; Oct. 1926, 381-382; Nov. 1926, 446-447; Dec. 1926, 509.

Minutes of meeting of National Council of Teachers of Mathematics held at Cleveland, February 28, 1923. XVI, April 1923, 251-256.

Minutes of the eighth annual meeting of the National Council of Teachers of Mathematics, Dallas, Texas, XX, Nov. 1927, 407-411.

Minutes of meeting of the National Council of Teachers of Mathematics held at Cincinnati, February 21, 1925. XVIII, April 1925, 242-245.

Minutes of the meeting of the National Council of Teachers of Mathematics held in the Raleigh Hotel, Saturday, Feb. 20, 1926, XIX, April 1926, 242-248.

National Council in Louisiana-Mississippi. Slaught, H. E., XX, Jan. 1927, 60.

National Council of Teachers of Mathematics. Austin, C. M., XIV, Jan. 1921, 1-4.

National Council program. XX, Feb. 1927, 123-125.

National Council program at Cleveland, XXII, Jan. 1929, 48.

Probable contents of the first yearbook issued by the National Council of Teachers of Mathematics. XIX, Jan. 1926, 61-62.

Program for the seventh annual meeting of the National Council of Teachers of Mathematics, XX, Jan. 1927, 53-54.

Program of National Council of Teachers of Mathematics. XVII, Jan. 1924, 63; Feb. 1924, 128.

Program of the Chicago meeting of the National Council. XV, Feb. 1922, 126.

Program of the ninth annual meeting of the National Council of Teachers of Mathematics. XXI, Feb. 1928, 118-119.

Report of committee on incorporation. Slaught, H. E., XXI, Oct. 1928, 363-365.

Second annual meeting National Council of Teachers of Mathematics. XIV, Jan. 1921, 55; Feb. 1921, 106.

Second yearbook of the National Council of Teachers of Mathematics. XX, Feb. 1927, 126.

Some comments on the first yearbook by the National Council of Teachers of Mathematics. Johnson, J. T., XIX, Nov. 1926, 434-441.

Tentative program for the annual meeting of the National Council of Teachers of Mathematics. XIX, Jan. 1926, 59-60.

Tenth Annual Meeting of the National Council of the Teachers of Mathematics, XXII, April 1929, 232-237.

Twenty years of the Association of Teachers of Mathematics in New England. Osgood, W. F., and others, XVII, Feb. 1924, 94-103.

Watch the National Council grow! XXI, Dec. 1928, 453.

National Council in Louisiana-Mississippi. Slaught, H. E., XX, Jan. 1927, 60.

National Council of Teachers of Mathematics. Austin, C. M., XIV, Jan. 1921, 1-4.

National Council program. XX, Feb. 1927, 123-125.

Nature of algebraic abilities. Thorndike, Edward L., XV, Jan. 1922, 6-15; Feb. 1922, 79-89.

Need for more adequate measurements of achievement in arithmetic. Sangren, Paul V., XXII, Jan. 1929, 1-13.

Need for testing practice in curriculum revision. Edwards, Wm. Herbert, XXII, Oct. 1929, 320-322.

New mathematics as a part of the new education, "its nature and function." Downey, Walter F., XXI, April 1928, 239-243.

New type final geometry examination. Sanford, Vera, XVIII, Jan. 1925, 22-36.

New type of examination. Babcock, L. F., XV, March 1922, 182-183.
New types of schools in Germany and their curricula in mathematics.
Lietzmann, W., XVII, March 1924, 148-153.

News and Notes. XIV, Jan. 1921, 48-52; Feb. 1921, 95-101; March 1921, 156-158; April 1921, 210-214; Oct. 1921, 344-348; Nov. 1921, 401-404; Dec. 1921, 469. XV, March 1922, 189; April 1922, 241-245; May 1922, 311-313; Oct. 1922, 369-374; Nov. 1922, 440-441; Dec. 1922, 503-505. XVI, Jan. 1923, 59-62; Feb. 1923, 124-128; March 1923, 188-190; May 1923, 311-314; Oct. 1923, 374-381; Nov. 1923, 443-446; Dec. 1923; 509-512. XVII, Jan. 1924, 61-62; Feb. 1924, 120-121; April 1924, 239-241; May 1924, 305-308; Oct. 1924, 377-378; Nov. 1924, 444-445; Dec. 1924, 504-507. XVIII, Jan. 1925, 54-58; Feb. 1925, 121-124; March 1925, 182; April 1925, 246-249; May 1925, 309-313; Nov. 1925, 433-437; Dec. 1925, 501-502. XIX, Feb. 1926, 120-121; April 1926, 251-252; Oct. 1926, 375-376; Nov. 1926, 432-433; Dec. 1926, 506-508. XX, Jan. 1927, 55-59; March 1927, 178-179; April 1927, 241; Oct. 1927, 349-351. XXI, Jan. 1928, 58-59; Feb. 1928, 116-117; March 1928, 182; May 1928, 302-303; Nov. 1928, 426-427; Dec. 1928, 490. XXII, Jan. 1929, 58; Feb. 1929, 120; March 1929, 178-180; April 1929, 238-242; May 1929, 305-306; Oct. 1929, 368-370. Nov. 1929, 428-430. (Dec. 1929) 488.

Newer type of mathematics. Swenson, John A., XXII, March 1929, 152-155.
Next step for the administrator in junior high school. Van Denburg,
Joseph K., XV, Jan. 1922, 28-29.

Next step in content in junior high school mathematics. Smith, David Eugene, XV, Jan. 1922, 26-27.

Next step in method. Kilpatrick, William H., XV, Jan. 1922, 16-25.
No home work for mathematics pupils. Wright, Horace C., XIV, Oct. 1921, 334-336.

Non-Euclidean geometry. Bussey, W. H., XV, Dec. 1922, 445-459. Normal schools.

Teachers' course in arithmetic in the normal school. Upton, Clifford Brewster, XVIII, Nov. 1925, 406-417.

Note on the fallacy. Carnahan, Walter H., XIX, Dec. 1926, 496-498.

Notes on Mr. Evans' paper in the March Teacher. Hart, H. F., XV, Oct. 1922, 360-361.

Note on the failure of educated persons to understand simple geometrical facts. Thorndike, Edward L., XIV, Dec. 1921, 451-453.

Notes on the teaching of arithmetic. Short, R. L., XV, Dec. 1922, 500-502. Notion of limit. Jackson, Dunham. XVII, Feb. 1924, 72-77.

Number of things for beginners in geometry. Richmond, Vesta A., XX, March 1927, 142-149.

Number play in three acts. Schlierholz, Tillie, XVII, March 1924, 154-169.

Objectives in algebra.

Aims of mathematical education. Minnick, J. H., XIV, Oct. 1921, 297-304.

Confusion of objectives in secondary mathematics. Betz, William, XVI, Dec. 1923, 449-469.

Discussion (Professor Reeves "Objectives in teaching mathematics"). Barber, Harry C., XIX, Feb. 1926, 122.

Objectives in intermediate algebra. Nyberg, Joseph A., XX, Dec. 1927, 451-458.

Objectives in teaching intermediate algebra. Reeve, W. D., XX, March 1927, 150-160.

Objectives in teaching of mathematics in secondary schools. Allen, Gertrude E., XVI, Feb. 1923, 65-77.

Objectives in the teaching of mathematics. Reeve, W. D., XVIII, Nov. 1925, 385-405.

Objectives in geometry.

Objectives in teaching demonstrative geometry. Reeve, William David, XX, Dec. 1927, 435-450.

Mathematical Objectives. R. M. Winger, XXII (Dec. 1929), 462-466. Some objectives to be realized in a course in plane geometry. Sister Alice Irene, XXII, Dec. 1929, 435-446.

Study of procedures used in the determination of objectives in the teaching of mathematics. Georges, J. S., XXII, March 1929, 156-165.

Objectives in teaching demonstrative geometry. Reeve, William David, XX, Dec. 1927, 435-450.

Objectives in intermediate algebra. Nyberg, Joseph A., XX, Dec. 1927, 451-458.

Objectives in teaching intermediate algebra. Reeve, W. D., XX, March 1927, 150-160.

Objectives in teaching of mathematics in secondary schools. Allen, Gertrude E., XVI, Feb. 1923, 65-77.

Objectives in the teaching of mathematics. Reeve, W. D., XVIII, Nov. 1925, 385-405.

Ode in praise of mathematics. Mount St. Joseph College, Dubuque, Iowa, XIX, Dec. 1926, 487.

Ode to the cosine. Williams, Glenn, XIX, Dec. 1926, 488.

Oldest algorism in the French language. Houghtaling, Anna Elizabeth, and Clarke, Frances Marguerite, XIX, March 1926, 179-183.

On the nature of algebraic language. Georges, J. S., XXI, March 1928, 135-150.

On the precedence of numerical operations. Moritz, Robert E., XVI, Nov. 1923, 425-430.

On the rôle of notation in mathematics. Winger, R. M., XVII, Oct. 1924, 323-335.

Open letter. Loomis, Hiram B., XX, Jan. 1927, 1-4.

Opportunities for transfer making in elementary mathematics. Jablonower, Joseph, XXI, May 1928, 292-302.

Oral work in high school algebra. Taylor, S. Helen, XVII, Jan. 1924, 35-45

Origin and development of our present method of extracting the square and cube roots of numbers. Nordgaard, Martin A., XVII, April 1924, 223-238.

Origin of mathematics—a first lesson in secondary mathematics. Betz, William, XV, May 1922, 283-293.

Origin of our numerals. Sherman, Charles Pomeroy, XVI, Nov. 1923, 398-401.

Original solution in plane geometry. Laird, Robert A., XV, Oct. 1922, 361-363.

Our geometry in Egypt and China. Austin, William A., XVI, Feb. 1923, 78-86.

Outlook with regard to school mathematics. Webber, W. Paul, XIV, Feb. 1921, 78-84.

Outstanding pedagogical principles now functioning in high school mathematics. Myers, G. W., XIV, Feb. 1921, 57-63.

Papers by pupils of the plane geometry classes of Fullerton Union High School. Reynold, Lena E., XV, March 1922, 172-181.

Pennsylvania state course of study in mathematics. Foberg, John A., XVI, May 1923, 266-273.

Permanent nature of the necessity for mathematics in the secondary schools. Karpinski, Louis C., XXII, April 1929, 197-202.

Permutations in the 16th century Cabala. Turetsky, Morris, XVI, Jan. 1923, 29-34.

Place and teaching of calculus in secondary schools. Farmer, Susie B., XX, April 1927, 181-202.

Place of elementary calculus in senior high school mathematics. Rosenberger, Noah Bryan, XV, March 1922, 152-156.

Place of mathematics in junior high school education. Rowlands, Agnes, XXII, Oct. 1929, 323-332.

Place of the calculus in the training of the high school teacher. Cosby, Byron, XVI, Nov. 1923, 431-439.

Place of the history and recreations of mathematics in teaching algebra and geometry. Simons, Lao G., XVI, Feb. 1923, 94-101.

Plan for meetings of mathematics teachers in a high school. McLaughlin, H. P., XXII, Nov. 1929, 418-426.

A near tragedy. Florence Brooks Miller, XXII, Dec. 1929, 472-481.

Evolution of numbers—an historical drama in two acts. Slaught, H. E., XXI, Oct. 1928, 305-315.

Falling in love with plain geometry. Hatton, Caroline, and Doris H. Smith, XX, Nov. 1927, 389-402.

Geometry humanized. A school play in one act. Scott, Erma, XXI, Feb. 1928, 92-101.

"If." Ruth L. Snyder, XXII, Dec. 1929, 482-486.

Little journey to the land of mathematics. Crawford, Alma E., XVII, Oct. 1924, 336-342.

Mathematical nightmare. Skerrett, Josephine, XXII, Nov. 1929, 413-417.

Mathesis. Brownell, Ella, XX, Dec. 1927, 459-465.

Number play in three acts. Schlierholz, Tillie, XVII, March 1924, 154-169.

Pleasant approach to demonstrative geometry. Sadley, E. V., XIX, Dec. 1926, 484-486.

Poetry of mathematics. Smith, David Eugene, XIX, May 1926, 291-296.Point system of teaching algebra. Wade, Bailey M., XXII, Feb. 1929, 80-82.

Popularizing plane and solid geometry. Pratt, Gertrude V., XXI, Nov. 1928, 412-421.

Position of the high school teacher of mathematics. Evans, Griffith C., XXI, Oct. 1928, 357-362.

Postulates and sequence in Euclid. Evans, George W., XX, Oct. 1927, 310-320.

Prescribed versus elective mathematics in junior high schools. Snedden, David, XV, Feb. 1922, 105-109.

Present tendencies in high school mathematics. Rorer, Jonathan T., XVII, Jan. 1924, 22-30.

Presentation to Teachers College of a portrait of Professor Smith. Mc-Farlane, C. T., 297-298; Plimpton, George A., 298-299; Mielziner, Leo, 299-300; Russell, James E., 300-301; Macy, V. Everit, 302; Smith, David Eugene, 302-305; XIX, May 1926, 297-305.

Price of wisdom. Evans, George W., XVI, Oct. 1923, 356-358.

Probability applied to grades. Moulton, E. J., XVI, March 1923, 141-149. Probable contents of the first yearbook issued by the National Council of Teachers of Mathematics. XIX, Jan. 1925, 61-62.

Problem of algebra instruction. Birch, John J., XX, March 1927, 161-172. Problem of home work papers. Overman, J. R., XIV, March 1921, 143-146.

Problems concerning the teaching of secondary mathematics. Davis, Alfred, XV, Dec. 1922, 467-477.

Professor Hedrick's report on the function concept in elementary mathematics. Webb, Harrison E., XV, Oct. 1922, 364-368.

Professor Smith's literary activities. Ginsburg, Jekuthial, XIX, May 1926, 306-311.

Program for the seventh annual meeting of the National Council of Teachers of Mathematics. XX, Jan. 1927, 53-54.

Program of investigation and cooperative experimentation in the mathematics of the seventh, eighth, and ninth school years. Schorling, Raleigh, and John R. Clark, XIV, May 1921, 264-275.

Program of National Council of Mathematics Teachers. XVII, Jan. 1924, 63; Feb. 1924, 128.

Program of the Chicago Meeting of the National Council. XV, Feb. 1922, 126.

Program of the ninth annual meeting of the National Council of Teachers of Mathematics. XXI, Feb. 1928, 118-119.

Project in mathematics. Smith, Donald P., XVIII, Feb. 1925, 97-101.

Project method and the socialized recitation. Jablonower, Joseph, XXI, Dec. 1928, 431-441.

Proof of an original exercise. Beyer, Walter, XX, Feb. 1927, 91-92.

Proof of the Pythagorean theorem. Evans, George W., XVI, Nov. 1923, 440.

Proof of the theorem of Pythagoras. Knoer, Alvin, XVIII, Dec. 1925, 496-497.

Proving the equality of the base angles of an isosceles triangle. Nyberg, Joseph A., XXII, Oct. 1929, 318-319.

Psychological tests of mathematical ability and educational guidance. Rogers, Agnes L., XVI, April 1923, 193-205.

Psychology.

Analysis versus synthesis. Wuerst, Alma M., XX, Jan. 1927, 46-49. Constitution of algebraic abilities. Thorndike, Edward L., XV, Nov. 1922, 405-415.

Geometry as a course in reasoning. McLaughlin, Henry P., XVI, Dec. 1923, 493-499.

Habit in the education process. Webber, W. Paul, XVII, April 1924, 202-208.

Nature of algebraic abilities. Thorndike, Edward L., XV, Jan. 1922, 6-15; Feb., 79-89.

Note on the failure of educated persons to understand simple geometrical facts. Thorndike, Edward L., XIV, Dec. 1921, 451-453.

Psychology of errors in algebra. Symonds, Percival M., XV, Feb. 1922, 93-104.

Psychology of problem solving. Thorndike, Edward L., XV, April 1922, 212-227; May, 253-264.

Psychology of the equation. Thorndike, Edward L., XV, March 1922, 127-136.

Reflective process in geometry. Goff, Robert R., XVII, May 1924, 287-

289. Repetition of errors in algebra. Scott, Flora L., XVIII, Feb. 1925,

Rigor versus expediency in the proof of locus originals. Bowker, Elmer R., XX, Feb. 1927, 82-90.

Strength of the mental connections formed in algebra. Thorndike, Edward L., XV, Oct. 1922, 317-331.

Psychology of errors in algebra. Symonds, Percival M., XV, Feb. 1922, 93-104.

Psychology of problem solving. Thorndike, Edward L., XV, April 1922, 212-227; May 1922, 253-264.

Psychology of the equation. Thorndike, Edward L., XV, March 1922, 127-136.

Public honors for mathematical contributions. Miller, G. A., XVI, Oct. 1923, 335-339.

Purpose, method and mode of demonstrative geometry. Hart, W. W., XVII, March 1924, 170-177.

Pursuit of zero. Rounds, Emma, XVII, Oct. 1924, 365-367.

Question of method in subtraction. Roantree, William F., XVII, Feb. 1924, 110-116.

Rabbi ben Ezra on permutations and combinations. Ginsburg, Jekuthiel; XV, Oct. 1922, 347-356.

Radio and airplane distances. Nygaard, P. H., XXII, Feb. 1929, 117-120.
Reaction vs. radicalism in the teaching of mathematics. Myers, G. W.,
XV, March 1922, 137-146.

Real improvement in algebra teaching. Barber, Harry C., XVIII, Oct. 1925, 364-374.

Recent changes in the teaching of algebra. Nyberg, Joseph A., XVIII, Jan. 1925, 10-21.

Recent symbolisms for decimal fractions. Cajori, Florian, XVI, March 1923, 183-187.

Recitation in mathematics. Atkin, Edith Irene, XVII, Dec. 1924, 459-470. Recitation in mathematics. Minnick, J. H., XIV, March 1921, 119-123.

Recreational values achieved through mathematics clubs in secondary clubs. Gugle, Marie, XIX, April 1926, 214-218.

Recreations.

Absurdities due to division by zero. Cajori, Florian, XXII, Oct. 1929, 366-368.

Algebraic magic squares. McLaughlin, Henry P., XIV, Feb. 1921, 71-77.

Magic circles. Sanford, Vera. XVI, Oct. 1923, 348-349.

Mathematical recreations. Pierce, Martha, XIX, Jan. 1926, 13-24.

Reflections on fourth dimension. Altieri, A. M., XVIII, Dec. 1925, 490-495.

Reflective process in geometry. Goff, Robert R., XVII, May 1924, 287-289.

Reformed mathematical teaching. Fawdry, R. C., XVII, Feb. 1924, 65-71. Relative emphasis upon mechanical skill and applications of elementary mathematics. Allen, Fiske, XIV, Dec. 1921, 435-443.

Reliability of teachers' marks. Shriner, Walter O., XVII, Nov. 1924, 426-443.

Religio mathematici. Smith, David Eugene, XIV, Dec. 1921, 413-426.
Remarks on the report of the National Council on mathematical requirements on college entrance requirements. Hedrick, E. R., 137-139; Gaylord, H. D., 139-142. XIV, March 1921, 137-142.

Reply to "The position of the high school teacher of mathematics." Cowley, Elizabeth, XXII, Jan. 1929, 14-17.

Reorganized course in junior high school arithmetic. Brooks, Florence M., XIV, April 1921, 179-188.

Repetition of errors in algebra. Scott, Flora L., XVIII, Feb. 1925, 92-96. Report of committee on incorporation. Slaught, H. E., XXI, Oct. 1928, 363-365.

Report of the committee on mathematics in the state normal school curricula, Pennsylvania. Anderson, R. F., Chairman, XVII, May 1924, 255-262.

Report of the seventy-ninth meeting of the American Association for the Advancement of Science. Mirick, G. R., XVIII, Feb. 1925, 119-121.

Research department. Schorling, Raleigh, XV, April 1922, 251-252; May 1922, 316; Oct. 1922, 375-376; Nov. 1922, 442-443.

Review of Professor Moore's presidential address. English, Harry, XIX, March 1926, 129-139.

Reviews in geometry. Murphy, L. W., XVI, Nov. 1923, 440-441.

Revision of college preparatory mathematics by Miss Gugle. Stroup, P., XIX, Oct. 1926, 321-327.

Riddle from Archimedes. Evans, George W., XX, May 1927, 243-252.
Rigor versus expediency in the proof of locus originals. Bowker, Elmer R., XX, Feb. 1927, 82-90.

Robert Recorde. Cajori, Florian, XV, May 1922, 294-302.

Romance in science. Miller, Bessie Irving, XV, Nov. 1922, 416-422.

Romance of mathematics. Slaught, H. E., XX, Oct. 1927, 303-309. Round Table discussion. Breslich Croninger, Smith, E. R., XIV, March 1921, 151-155; Nov. 1921, 405-406.

Rule and reason in algebra. Beatley, Ralph, XIX, Jan. 1926, 25-29.

Scales of notation. Mirick, Gordon R., and Sanford, Vera. XVIII, Dec. 1925, 465-471.

Second Annual Meeting National Council of Teachers of Mathematics. XIV, Jan. 1921, 55; Feb. 1921, 106.

Second yearbook of the National Council of Teachers of Mathematics. Secondary school mathematics, see also senior high school mathematics and junior high school mathematics.

Elective courses in mathematics for secondary schools: preliminary report by the National Committee. XIV, April 1921, 161-170.

Origin of mathematics—a first lesson in secondary mathematics. Betz, William, XV, May 1922, 283-293.

Why is it? Stroup, P., XIX, March 1926, 169-173.

Selecting tests for measuring achievement in high school mathematics.

Desing, Minerva. XXII, Nov. 1929, 390-396.

Senior high school.

Elective course in mathematics for the eleventh and twelfth school years. Mirick, Gordon R., and Vera Sanford, XIX, April 1926, 235-241.

Sequence of theorems in school geometry. Nunn, T. P., XVIII, Oct. 1925, 321-332.

Should we teach statistics in the senior high school? Thomson, Godfrey H., XVII, March 1924, 129-139.

Significant facts in the history of the metric system for teachers of junior and senior high school mathematics. Schreiber, Edwin W. XXII, Nov. 1929, 373-381.

Sine. Ewing, James, XIX, Dec. 1926, 489.

Slide rule as a subject of regular class instruction in mathematics. Breckenridge, William E., XIV, Oct. 1921, 342-343.

Slide rule.

Slide rule as a subject of regular class instruction in mathematics. Breckenridge, William E., XIV, Oct. 1921, 342-343.

Slide rule in business. Shelley, S. L., XIV, May 1921, 261-263.

Slide rule in junior and senior high school. Barnhill, John F., XVII, Oct. 1924, 359-364.

Slide rule in plane geometry. Gorsline, W. W., XVII, Nov. 1924, 385-403.

Solution of quadratic and cubic equations on the slide rule. Colwell, R. C., XIX, March 1926, 162-165.

Time is money: a story for high school and college students and for all who are interested in saving time. Breckenridge, William E., XVI, Oct. 1923, 332-334.

Slide rule in business. Shelley, S. L., XIV, May 1921, 261-263.

Slide rule in junior and senior high school. Barnhill, John F., XVII, Oct. 1924, 359-364.

Slide rule in plane geometry. Gorsline, W. W., XVII, Nov. 1924, 385-403.

Specialized courses in mathematics.

Four years of mathematics for commercial pupils. Hussey, Frederick K., XVII, Nov. 1924, 411-421.

Minimum mathematical requirements for agricultural study. Roe, H. B., XV, Jan. 1922, 30-42.

So let me work. Merrill, Helen A., XIX, Feb. 1926, 99.

Solid geometry versus advanced algebra. Babcock, W. F., XX, Dec. 1927, 478-480.

Solution of quadratic and cubic equations on the slide rule. Colwell, R. C., XIX, March 1926, 162-165.

Some applications of algebra to theorems in solid geometry. Reynolds, Joseph B., XVIII, Jan. 1925, 1-9.

Some aspects of correlation theory. Mensenkamp, L. E., XVI, Feb. 1923, 112-122.

Some comments on the first year book by the National Council of Teachers of Mathematics. Johnson, J. T., XIX, Nov. 1926, 434-441.

Some higher aspects of secondary school mathematics. Bandman, Chester G., XIX, Jan. 1926, 46-51.

Some ideals in teaching mathematics. Schreiber, Edwin W., XIV, May 1921, 252-254.

Some interesting side lights upon elementary mathematics, introducing a new expansion of binomial theorem. Meeks, Mrs. L. H., XIX, March 1926, 166-168.

Some lovers of the conic sections. Chapin, Margaret L., XIX, Jan. 1926, 36-45.

Some mathematics of the calculating machine. Locke, L. Leland, XV, Nov. 1922, 422-428.

Some methods in subtraction. Gibson, Charles S., XVII, Dec. 1924, 486-494.

Some objectives to be realized in a course in plane geometry. Sister Alice Irene, XXII, Dec. 1929, 435-446.

Some of Euclid's algebra. Evans, George W., XX, March 1927, 127-141.Some pedagogical aspects of geometry teaching. Sykes, Mabel, XX, Dec. 1927, 466-472.

Some suggestions on the technique of teaching plane geometry. Cowley, E. B., XX, Nov. 1927, 370-374.

Some time-saving methods in teaching graphing. Pearson, M. H., XVII, Feb. 1924, 117-119.

Some true-false examinations for use in general mathematics. Wright, Horace C., XVIII, Feb. 1925, 83-91.

Some varieties of space. Martin, Emilie N., XVI, Dec. 1923, 470-480.

Some values of algebra. Barber, Harry C., XIX, Nov. 1926, 395-399. Statistics.

Elementary exposition of the theorem of Bernoulli with applications to statistics. Rietz, H. L., XIV, Dec. 1921, 427-434.

Probability applied to grades. Moulton, E. J., XVI, March 1923, 141-149. Should we teach statistics in the senior high school? Thomson, Godfrey H., XVII, March 1924, 129-139.

Some aspects of correlation theory. Mensenkamp, L. E., XVI, Feb. 1923, 112-122.

"Steradians" and spherical excess. Evans, George W., XV, Nov. 1922, 429-433.

Stewart's theorem, with applications. Morris, Richard, XXI, Dec. 1928, 465-478.

Strength of the mental connections formed in algebra. Thorndike, Edward L., XV, Oct. 1922, 317-331.

Student difficulties in exercises in geometry. Perry, Winona M., XVIII, Feb. 1925, 79-82.

Study habits.

Teaching pupils how to study mathematics. Davis, Alfred, I. XIV, Oct. 1921, 311-320. II. XIV, Nov. 1921, 387-400. III. XIV, Dec. 1921, 454-468.

Study in fractions. Worthington, J. E., XVI, Oct. 1923, 366-373.

Study of a pupil's knowledge of algebra at the beginning of his junior year in high school. Mirick, Gordon R., and Vera Sanford, XVIII, March 1925, 171-181.

Study of mathematics under the individual systems. Reese, Mary M., XV, Dec. 1922, 460-466.

Study of procedures used in the determination of objectives in the teaching of mathematics. Georges, J. S., XXII, March 1929, 156-165.

Study of prognosis in high school algebra. Orleans, Joseph B., and Jacob S. Orleans, XXII, Jan. 1929, 23-30.

Study of pupil reactions. McWilliams, Lulu E., XXII, May 1929, 284-292. Study of the cultivation of space imagery in solid geometry through the use of models. Schreiber, Edwin W., XVI, Feb. 1923, 102-111.

Study of the effect of checking upon accuracy in addition. Clark, John R., and Vincent, E. Leona, XIX, Feb. 1926, 65-71.

Study of the errors made in a ninth year algebra class. Wattawa, Virginia, XX, April 1927, 212-222.

Study of the factors of success in first year algebra. Schreiber, Edwin W., XVIII, Feb. 1925, 63-78; March 1925, 141-163.

Study or recitation first in supervised study in mathematics classes. Douglass, Harl R., XXI, Nov. 1928, 390-397.

Suggestions on the arithmetic question. Smith, David Eugene, XVIII, Oct. 1925, 333-340.

Suggestions on conducting the recitation in geometry. Hassler, Jasper O., XIX, Nov. 1926, 411-418.

Suggestions for a first lesson in algebra. H. F. Munch, XXII, Dec. 1929, 467-471.

Supervised study.

No home work for mathematics pupils. Wright, Horace C., XIV, Oct. 1921, 334-336.

Study or recitation first in supervised study in mathematics classes. Douglass, Harl R., XXI, Nov. 1928, 390-397.

Supplementary project in functional graphs. Georges, J. S., XIX, March 1926, 174-178.

Suppose there were no mathematics. Clark, R. F., XXI, Nov. 1928, 428-429.

Symbolism. See Terminology.

Symposium of discussion on the National Committee Report on Junior High School Mathematics. Breslich, E. R., 23-26; Marie Gugle, 26-28; William Betz, 28-35; C. B. Walsh, 35-37; Raleigh Schorling, 37-41. XIV, Jan. 1921, 16-41.

Systematic procedure in the solution of algebraic problems. Goff, Robert R, XVI, Oct. 1923, 350-355.

Tangent. Burbridge, Mildred, XIX, Dec. 1926, 489.

Tangent. Waterhouse, Josephine, XIX, Dec. 1926, 489.

Tangents. Williams, Glenn, XIX, Dec. 1926, 488.

Teachers' course in arithmetic in the normal school. Upton, Clifford, Brewster, XVIII, Nov. 1925, 406-417.

Teaching by parables. Lovitt, W. V., XXI, Jan. 1928, 10-17.

Teaching geometry its rightful place. Hassler, J., XXII, Oct. 1929, 333-341. Teaching incommensurables. Sanford, Vera, XIV, March 1921, 147-150. Teaching logarithms to high school pupils in eight recitation periods.

Rudman, Barnet, XIX, Dec. 1926, 456-471.

Teaching of mathematics, see also algebra, arithmetic, geometry, objectives.

Animated mathematics. Baker, Howard Bates, XVII, Dec. 1924, 482-485.

Approach to the solution of the problems which the traditional mathematics program presents. Stone, Charles A., XVIII, Dec. 1925, 449-454.

Art of questioning. Gould, Clarence G., XVI, Jan. 1923, 52-56.

Correlation of the mathematical subjects develops mathematical power. Stone, Charles A., XVI, May 1923, 302-310.

Few classroom devices to stimulate interest in mathematics. Rabourn,

Sara B. F., XX, Oct. 1927, 328-333.
Imagination in mathematics. Lovitt, W. V., XVII, May 1924, 263-268.
Interest of pupils in high school mathematics and factors in securing it. Davis, Alfred, XX, Jan. 1927, 26-38.

Laboratory method of teaching mathematics in the classroom. Stone, Charles A., XVII, April 1924, 209-222.

Lest we forget. Lindquist, Theodore, XX, Nov. 1927, 375-380.

Making mathematics interesting. Barnes, Augusta, XVII, Nov. 1924, 404-410.

Mathematics in methods. Beatley, Ralph, XVIII, Nov. 1925, 428-432. Memory and marks in mathematics. Luccock, Ethel, XVII, May 1924, 274-282.

Next step in method. Kilpatrick, William H., XV, Jan. 1922, 16-25.

- Opportunities for transfer making in elementary mathematics. Jablonower, Joseph, XXI, May 1928, 292-302.
- Oral work in high school algebra. Taylor, S. Helen, XVII, Jan. 1924, 35-45.
- Outstanding pedagogical principles now functioning in high school mathematics. Myers, G. W., XIV, Feb. 1921, 57-63.
- Problem of home work papers. Overman, J. R., XIV, March 1921, 143-146.
- Problems concerning the teaching of secondary mathematics. Davis, Alfred, XV, Dec. 1922, 467-477.
- Project method and the socialized recitation. Jablonower, Joseph, XXI, Dec. 1928, 431-441.
- Reaction vs. radicalism in the teaching of mathematics. Myers, G. W., XV, March 1922, 137-146.
- Recitation in mathematics. Atkin, Edith Irene, XVII, Dec. 1924, 459-470.
- Recitation in mathematics. Minnick, J. H., XIV, March 1921, 119-123. Reformed mathematical teaching. Fawdry, R. C., XVII, Feb. 1924, 65-71. Relative emphasis upon mechanical skill and applications of elementary
- mathematics. Allen, Fiske, XIV. Dec. 1921, 435-443. Some ideals in teaching mathematics. Schreiber, Edwin W., XIV, May 1921, 252-254.
- Teaching of mathematics: the need and the method. Williams, Frank B., XV, Jan. 1922, 49-56.
- Teaching pupils the conscious use of a technique of thinking. Johnson, Elsie Parker, XVII, April 1924, 191-201.
- Two variables. Farrar, Alice, XX, Oct. 1927, 334-343.
- Understanding and practice. Jablonower, Joseph, XXI, Feb. 1928, 111-115.
- Teaching mathematics to girls. Shaw, James Byrnie, XVIII, Dec. 1925, 455-464.
- Teaching of algebra. Richards, Harold F., XVI, Jan. 1923, 41-47.
- Teaching of beginning geometry. Schwartz, A. J., XV, May 1922, 265-282.
- Teaching of cancellation. Nyberg, Joseph A., XVIII, Dec. 1925, 472-476. Teaching of logarithms. Christofferson, H. C., XVII, March 1924, 178-188.
- Teaching of locus problems in elementary geometry. Aldrich, Fred D., XIV, April 1921, 200-205.
- Teaching of mathematics in an English secondary school. Brown, Margaret, XIX, Jan. 1926, 30-35.
- Teaching of mathematics in Germany since the war. (Translated by Ralph Beatley). Malsch, Fritz, XX, Nov. 1927, 355-369.
- Teaching of mathematics: the need and the method. Williams, Frank B., XV, Jan. 1922, 49-56.
- Teaching of proportion in plane geometry. Good, Warren R., and Chipman, Hope H., XXI, Dec. 1928, 454-464.
- Teaching of secondary mathematics in Holland. Schrek, J. E., XIX, Oct. 1926, 329-342.
- Teaching pupils how to study mathematics. Davis, Alfred. I XIV, Oct. 1921, 311-320; II Nov. 1921, 387-400; III Dec. 1921, 454-468.
- Teaching pupils the conscious use of a technique of thinking. Johnson, Elsie Parker, XVII, April 1924, 191-201.

Teaching plane geometry without a textbook. Strong, Theodore, XIX, Feb. 1926, 115-119.

Teaching the algebraic language to junior high school pupils. Overman, James Robert, XVI, April 1923, 215-227.

Teaching the verbal problem in intermediate algebra. Rudman, Barnet, XXII, Feb. 1929, 83-92.

Team work in elementary algebra. Hawley, James B., XVI, April 1923, 248-250.

Technique and devices conducive to better teaching of geometry. Blank, Laura, XXI, March 1928, 171-181.

Ten reasons why pupils fail in mathematics. Osburn, W. J., XVIII, April 1925, 234-238.

Tennis ball geometry. Hart, Howard F., XV, April 1922, 239-240.

Tentative program for the annual meeting of the National Council of Teachers of Mathematics. XIX, Jan. 1926, 59-60.

Terminology and symbolism.

Defects remaining in the notation and nomenclature of elementary mathematics. Collins, Joseph V. XVI March 1923 157-161.

On the rôle of notation in mathematics. Winger, R. M., XVII, Oct. 1924, 323-335.

Recent symbolisms for decimal fractions. Cajori, Florian, XVI, March 1923, 183-187.

Terms and symbols in elementary mathematics. XIV, March 1921, 107-118. Testing as a means of improving the teaching of high school mathematics. Breslich, E. R., XIV, May 1921, 276-291.

Tests.

Achievement test in solid geometry. McCoy, Louis A., XXI, March 1928, 151-162.

Better use of tests in mathematics. Reeve, William David, XVII, March 1924, 140-147.

Discussion—True False Examinations. Taylor, Edward, XVIII, Dec. 1925, 498-500.

Educational tests—to standardize or not to standardize. Reeve, W. D., XXI, Nov. 1928, 369-389.

Hotz algebra scales in the Pacific northwest. Eells, Walter Crosby, XVIII, Nov. 1925, 418-427.

Informal tests for diagnosis and remedial teaching in mathematics. Spencer, Peter L., XVI, March 1923, 175-182.

Measuring achievement in first year algebra. Douglass, Harl R., XVI, Nov. 1923, 414-420.

New type final geometry examination. Sanford, Vera, XVIII, Jan. 1925, 22-36.

New type of examination. Babcock, L. F., XV, March 1922, 182-183. Psychological tests of mathematical ability and educational guidance. Rogers, Agnes L., XVI, April 1923, 193-205.

Selecting tests for measuring achievement in high school mathematics. Desing, Minerva, XXII, Nov. 1929, 390-396.

Some true-false examinations for use in general mathematics. Wright, Horace C., XVIII, Feb. 1925, 83-91.

Study of prognosis in high school algebra. Orleans, Joseph B., and Jacob S. Orleans, XXII, Jan. 1929, 23-30. Testing as a means of improving the teaching of high school mathematics. Breslich, E. R., XIV, May 1921, 276-291.

Use of the inventory test in plane geometry. Haerter, Leonard D., XIX, March 1926, 147-154.

Validation of new types of plane geometry tests. Greene, Harry A., and Ruth O. Lane, XXII, May 1929, 293-301.

What the tests do not test. Walker, Helen M., XVIII, Jan. 1925, 46-53. Textbooks in unified mathematics for college freshmen. Sanford, Vera, XVI, April 1923, 206-214.

Thorndike philosophy of teaching the processes and principles of arithmetic. Bailey, Middlesex A., XVI, March 1923, 129-140.

Time in relation to mathematics. Smith, David Eugene, XXI, May 1928, 253-258.

Time is money: a story for high school and college students and for all who are interested in saving time. Breckenridge, William E., XVI, Oct. 1923, 332-334.

Traveling mathematics. Stritzinger, Marylew, XIX, Dec. 1926, 490-495. Twenty years of the Association of Teachers of Mathematics in New England. Osgood, W. F., and Others, XVII, Feb. 1924, 94-103.

Two methods of teaching geometry: syllabus vs. textbook. Ryan, James D., XXI, Jan. 1928, 31-36.

Two variables. Farrar, Alice, XX, Oct. 1927, 334-343.

Understanding and practice. Jablonower, Joseph, XXI, Feb. 1928, 111-115.
 Unification of mathematical notations in the light of history. Cajori, Florian, XVII, Feb. 1924, 87-93.
 Unified mathematics in secondary schools. Jones, Gertrude, XVII, May

1924, 290-300.

Uniform grading of examinations in algebra. Nyberg, Joseph A., XX, April 1927, 203-211.

Unitary organization of the mathematics of the seventh, eighth, and ninth grades. Breslich, E. R., XVI, April 1923, 228-235.

Use of mathematical history in teaching. Hassler, J. O., XXII, March 1929, 166-171.

Use of problems in teaching elementary algebra. Taylor, E. H., XX, Feb. 1927, 101-111.

Use of the function concept in first year algebra. Booher, Eleanor E., XIX, Feb. 1926, 86-98.

Use of the inventory test in plane geometry. Haerter, Leonard D., XIX, March 1926, 147-154.

Uses of cardboard. Lane, Ruth, XVIII, April 1925, 239-241.

Validation of new types of plane geometry tests. Greene, Harry A., and Ruth O. Lane, XXII, May 1929, 293-301.

Value of the history of Greek mathematics to secondary school teachers. Eells, Walter Crosby, XVIII, May 1925, 296-297.

Values in high school mathematics. Ryan, W. J., XIV, April 1921, 194-199.
Variability and functionality in high school mathematics. Blank, Laura, XXII, Nov. 1929, 405-412.

Varieties of minus signs. Cajori, Florian, XVI, May 1923, 295-301.

Vectors for beginners. Reynolds, Joseph B., XIV, Nov. 1921, 355-361.

Changeable changeless naught. Hagan, Irene G., XIX, Feb. 1926, 102-103. Figures. Hunter, William L., XVII, Oct. 1924, 367.

First aid in algebraic fractions. Fezandié, Margaret, XIX, Feb. 1926, 101. "Math." Hunter, William L., XIX, Feb. 1926, 77.

Ode in praise of mathematics. Mount St. Joseph College, Dubuque, Iowa, XIX, Dec. 1926, 487.

Ode to the cosine. Williams, Glenn, XIX, Dec. 1926, 488.

Sine. Ewing, James, XIX, Dec. 1926, 489.

So let me work. Merrill, Helen A., XIX, Feb. 1926, 99.

Tangent. Burbridge, Mildred, XIX, Dec. 1926, 489. Tangent. Waterhouse, Josephine, XIX, Dec. 1926, 489. Tangents. Williams, Glenn, XIX, Dec. 1926, 488.

Word to the foolish. Fezandié, Margaret, XIX, Feb. 1926, 100.

Visual method of solving arithmetic problems. Otis, Arthur S., XXI, Dec. 1928, 483-489.

Volume of a sphere. Jackman, Alonzo (edited by C. H. Spooner), XV, Feb. 1922, 90-92.

Watch the National Council grow. XXI, Dec. 1928, 453.

Way mathematicians work. Shaw, James Byrnie, XVI, March 1923, 170-174. What amount of algebra is retained by college freshmen? Eells, Walter Crosby, XVIII, April 1925, 219-225.

What are the real values of geometry? Perry, Winona M., XXI, Jan. 1928, 51-54.

What the state teachers college means to Bemidji financially. Rice, Mabel Frances, XXII, Oct. 1929, 342-347.

What the tests do not test. Walker, Helen M., XVIII, Jan. 1925, 46-53. When is a proof not a proof? Stroup, P., XIX, Dec. 1926, 499-505.

Why and how in algebra. Marsh, Harry B., XXI, Feb. 1928, 72-82.

Why is it? Stroup, P., XIX, March 1926, 169-173.

Why it is impossible to trisect an angle or to construct a regular polygon of 7 or 9 sides by ruler and compasses. Dickson, Leonard Eugene, XIV, May 1921, 217-223.

William James and Henri Poincaré. Ingraham, M. H., XX, May 1927, 253-264.

Word to the foolish. Fezandié, Margaret, XIX, Feb. 1926, 100.

Words of classical derivation in common mathematics vocabulary. Pressey, Luella Cole, XIX, Oct. 1926, 343-348.

Work of the National Committee on Mathematical Requirements. Young, J. W., XIV, Jan. 1921, 5-15.

You know what I mean. Morley, Raymond, K., XIX, Nov. 1926, 385-394. "You never can tell." McCaughn, J. Z. A., XVII, Jan. 1924, 58-60.

INDEX BY AUTHORS

Adams, A. S.

Civic values in the study of mathematics. XXI, Jan. 1928, 37-41.

Aldrich, Fred D.

Teaching of locus problems in elementary geometry. XIV, April, 1921, 200-205.

Allen, Gertrude E.

Objectives in teaching of mathematics in secondary schools. XVI, Feb. 1923, 65-77.

Allen, Fiske.

Relative emphasis upon mechanical skill and applications of elementary mathematics. XVI, Dec. 1921, 435-443.

Altieri, A.M.

Reflections on fourth dimension. XVIII, Dec. 1925, 490-495.

Anderson, R. F.

Report of the committee on mathematics in the state normal school curricula Pennsylvania. XVII, May 1924, 255-262.

Atkin, Edith Irene.

Recitation in mathematics. XVII, Dec. 1924, 459-470.

Austin, C. A.

Laboratory method in teaching of geometry. XX, May 1927, 286-294.

Austin, C. M.

National Council of Teachers of Mathematics. XIV, Jan. 1921, 1-4. Experiment in testing and classifying pupils in beginning algebra. XVII, Jan. 1924, 46-56.

Historical account of origin and growth of the National Council of Teachers of Mathematics. XXI, April 1928, 204-213.

Austin, William A.

Course in solid geometry. XIX, Oct. 1926, 349-361.

Our geometry in Egypt and China. XVI, Feb. 1923. 78-86.

Babcock, Lester F.

New type of examination. XV, March 1922, 182-183.

Solid geometry versus advanced algebra. XX, Dec. 1927, 478-480.

Bailey, Middlesex A.

Thorndike philosophy of teaching the processes and principles of arithmetic. XVI, March 1923, 129-140.

Baker, Howard Bates.

Animated mathematics. XVII, Dec. 1924, 482-485.

Bandman, Chester G.

Some higher aspects of secondary school mathematics. XIX, Jan. 1926, 46-51.

Barber, Harry C.

Discussion: the major problem of secondary school algebra. XXI, Jan. 1928, 49-50.

Discussion: Professor Reeve's "Objectives in Teaching Mathematics." XIX, Feb. 1926, 122.

Mathematics and modern life: the challenge and the opportunity. XXI, Oct. 1928, 350-352.

Real improvement in algebra teaching. XVIII, Oct. 1925, 364-374.

Some values of algebra. XIX, Nov. 1926, 395-399.

Barnes, Augusta.

Making mathematics interesting. XVII, Nov. 1924, 404-410.

Barnhill, John F.

Slide rule in junior and senior high school. XVII, Oct. 1924, 359-364. Beatley, Ralph.

Beginning geometry and college entrance, XXI, Jan. 1928, 42-45.

Mathematics in methods. XVIII, Nov. 1925, 428-432.

Mathematics in the Horace Mann School for Boys. XIV, April 1921, 189-193.

Rule and reason in algebra. XIX, Jan. 1926, 25-29.

Beck, Hildegarde.

Adjusting the course of study in ninth grade mathematics to the ability of the pupil. XXI, Jan. 1928, 24-30.

Bennett, Albert A.

Congruence of circular arcs. XVII, Oct. 1924, 369-371.

Benz, H. E.

Maintenance of fundamental arithmetical skills in the junior high school. XXI, Oct. 1928, 326-335.

Betz, William.

Confusion of objectives in secondary mathematics. XVI, Dec. 1923, 449-469.

Origin of mathematics—a first lesson in secondary mathematics. XV, May 1922, 283-293.

Symposium of discussion on the National Committee. Report on junior high school mathematics. XIV, Jan. 1921, 28-35.

Beyer, Walter.

Proof of an original exercise. XX, Feb. 1927, 91-92.

Bigelow, O. H.

Formula in secondary education. XXI, Dec. 1928, 442-453.

Birch, John J.

Problem of algebra instruction. XX, March 1927, 161-172.

Blank, Laura.

Functions of intuitive and demonstrative geometry, XXII, Jan. 1929, 31-37.

Influence of general mathematics on the subject matter of mathematics and on the theory and technique of the teaching of mathematics. XXI, Oct. 1928, 316-325.

Technique and devices conducive to better teaching of geometry. XXI, March 1928, 171-181.

Variability and functionality in high school mathematics. XXII, Nov. 1929, 405-412.

Booher, Eleanor E.

Use of the function concept in first year algebra. XIX, Feb. 1926, 86-98. Bowker, Elmer R.

Rigor versus expediency in the proof of locus originals. XX, Feb. 1927, 82-90.

Bradshaw, John W.

Drawing for teachers of solid geometry. XVII, Dec. 1924, 475-481; XVIII, Jan. 1925, 37-45; XIX, Nov. 1926, 400-407.

Breckenridge, William E.

Mathematics in Stuyvesant High School. XIV, Feb. 1921, 85-87.

Slide rule as a subject of regular class instruction in mathematics. XIV, Oct. 1921, 342-343.

Time is money: a story for high school and college students and for all who are interested in saving time. XVI, Oct. 1923, 332-334.

Breslich, E. R.

Symposium of discussion on the National Committee Report on junior high school mathematics. XIV, Jan. 1921, 23-26.

Testing as a means of improving the teaching of high school mathematics. XIV, May, 1921, 276-291.

Unitary organization of the mathematics of the seventh, eighth, and ninth grades. XVI, April 1923, 228-235.

Brooks, Florence M.

Reorganized course in junior high school arithmetic. XIV. April 1921, 179-188.

Brown, J. C.

Geometry of the junior high school. XIV, Feb. 1921, 64-70.

Brown, Margaret.

Teaching of mathematics in an English secondary school. XIX, Jan. 1926, 30-35.

Brownell, Ella.

Mathesis. XX, Dec. 1927, 459-465.

Burks, W. D.

Experiment comparing the efficiency of general mathematics with algebra and geometry. XVII, Oct. 1924, 343-349.

Burbridge, Mildred.

Tangent. XIX, Dec. 1926, 489.

Bussey, W. H.

Non-Euclidean geometry. XV, Dec. 1922, 445-459.

Cajori, Florian.

Absurdities due to division by zero. XXII, Oct. 1929, 366-368.

Controversies on mathematics between Wallis, Hobbes, and Barrow. XXII, March 1929, 146-151.

Fanciful hypotheses on the origin of the numeral forms. XVIII, March 1925, 129-133.

Recent symbolisms for decimal fractions. XVI, March 1923, 183-187.

Robert Recorde. XV, May 1922, 294-302.

Unification of mathematical notations in the light of history. XVII, Feb. 1924, 87-93.

Varieties of minus signs. XVI, May 1923, 295-301.

Camp, C. C.

Contributions of mathematics to modern life. XXI, April 1928, 219-226. Carmichael, R. D.

Empirical results in the theory of numbers. XIV, Oct. 1921, 305-310. Empirical theorems in Diophantine Analysis. XVI, May 1923, 257-265.

Carnahan, W. H. Historic theorem in plane geometry. XV, Dec. 1922, 496.

Note on the fallacy. XIX, Dec. 1926, 496-498.

Carver, Walter B.

Functions in general and the function [x] in particular. Dec. 1927, 429-434.

Chapin, Margaret L.

Some lovers of the conic sections. XIX, Jan. 1926, 36-45.

Chipman, Hope. See Good, Warren R.

Christofferson, H. C.

Different beginning for plane geometry. XXI, Dec. 1928, 479-482. Graph as a means of picturing relationships. XXI, April 1928, 227-238. Inductive method in junior college mathematics. XIX, April 1926, 202-205.

Teaching of logarithms. XVII, March 1924, 178-188.

Clark, John R.

Editorial. XIV, Jan. 1921, 46.

Important contribution to the teaching of mathematics. XIX, April 1926, 193-194.

Mathematics in the junior high school. XVIII, May 1925, 257-283.

- and E. Leona Vincent.

Comparison of two methods of arithmetic problem analysis. XVIII, April 1925, 226-233.

Study of the effect of checking upon accuracy in addition. XIX, Feb. 1926, 65-71.

- See Schorling, Raleigh.

Clark, R. F.

Suppose there were no mathematics. XXI, Nov. 1928, 428-429.

Clarke, Edith.

Mathematics in modern business. XXI, May 1928, 259-267.

Clarke, Frances Marguerite. See Houghtaling, Anna Elizabeth.

Cline, Jessie M.

Adjusting algebra to ability levels through the time element. XXII, Oct. 1929, 309-317.

Cole, J. P. See Webber, W. Paul.

Collins, Joseph V.

Defects remaining in the notation and nomenclature of elementary mathematics. XVI, March 1923, 157-161.

Colwell, Levis W.

Arithmetic in the junior high school. XVIII, Feb. 1925, 111-118.

Colwell, R. C.

Solution of quadratic and cubic equations on the slide rule. XIX, March 1926, 162-165.

Cooke, Martha C.

Individual work in algebra. XXII, Oct. 1929, 361-365.

Cosby, Byron.

Place of the calculus in the training of the high school teacher. XVI, Nov. 1923, 431-439.

Cowley, Elizabeth B.

Reply to "The position of the high school teacher of mathematics." XXII, Jan. 1929, 14-17.

Some suggestions on the technique of teaching plane geometry. XX, Nov. 1927, 370-374.

Crafts, Lilian L.

Causes of failure in plane geometry as related to mental ability. XVI, Dec. 1923, 481-492. Crawford, Alma E.

Little journey to the land of mathematics. XVII, Oct. 1924, 336-342.

Dake, L. Gilbert.

Arithmetic in the high school. XV, Feb. 1922, 119-125.

Davis, Alfred.

Importance of mathematics. XVI, Nov. 1923, 441-442.

Interest of pupils in high school mathematics and factors in securing it. XX, Jan. 1927, 26-38.

Problems concerning the teaching of secondary mathematics. XV, Dec. 1922, 467-477.

Teaching pupils how to study mathematics: I, XIV, Oct. 1921, 311-320; II, Nov. 1921, 387-400; III, Dec. 1921, 454-468.

Davis, Dwight S.

Live problem material in algebra. XVI, Nov. 1923, 402-413.

Derby, Mary. See Russell, Helen G.

Desing, Minerva.

Selecting tests for measuring achievement in high school mathematics. XXII, Nov. 1929, 390-396.

Dickson, Leonard Eugene.

Why it is impossible to trisect an angle or to construct a regular polygon of 7 or 9 sides by ruler and compasses. XIV, May 1921, 217-223.

Douglass, Harl R.

Measuring achievement in first year algebra. XVI, Nov. 1923, 414-420. Study or recitation first in supervised study in mathematics classes. XXI, Nov. 1928, 390-397.

Downey, Walter F.

New mathematics as a part of the new education, "its nature and function." XXI, April 1928, 239-243.

Duncan, Myrtle H. See Russell, Helen G.

Durell, Fletcher.

Ability grouping in mathematical classes. XXI, Nov. 1928, 398-411. Graphs as a part of coöperative mathematics. XXII, Feb. 1929, 65-79.

Edwards, Wm. Herbert.

Need for testing practice in curriculum revision. XXII, Oct. 1929, 320-322.

Eells, Walter Crosby.

Hotz Algebra Scales in the Pacific Northwest. XVIII, Nov. 1925, 418-427. How much elementary algebra is remembered by freshmen when entering college. XIX, April 1926, 206-213.

Value of the history of Greek mathematics to secondary school teachers. XVIII, May 1925, 296-297.

What amount of algebra is retained by college freshmen? XVIII, April 1925, 219-225.

Elicker, Paul E.

Improvements in teaching algebra and geometry made possible by the new college board requirements. XVIII, March 1925, 164-170.

English, Harry.

Review of Professor Moore's presidential address. XIX, March 1926, 129-139.

Evans, George W.

Checking up the prophets. XIX, Oct. 1926, 362-365.

Definition of similarity. XV, May 1922, 147-151. Heresy and orthodoxy in geometry. XIX, April 1926, 195-201. Postulates and sequence in Euclid. XX, Oct. 1927, 310-320.

Price of wisdom. XVI, Oct. 1923, 356-358.

Proof of the Pythagorean Theorem. XVI, Nov. 1923, 440.

Riddle from Archimedes. XX, May 1927, 243-252. Some of Euclid's algebra. XX, March 1927, 127-141.

"Steradians" and spherical excess. XV, Nov. 1922, 429-433.

Evans, Griffith C.

Position of the high school teacher of mathematics. XXI, Oct. 1928, 357-362.

Ewing, James.

Sine. XIX, Dec. 1926, 489.

Farmer, Susie B.

Place and teaching of calculus in secondary schools. XX, April 1927, 181-202.

Farrar, Alice.

Two variables. XX, Oct. 1927, 334-343.

Fawdry, R. C.

Reformed mathematical teaching. XVII, Feb. 1924, 65-71.

Fezandié, Margaret.

First aid in algebraic fractions. XIX, Feb. 1926, 101.

Word to the foolish. XIX, Feb. 1926, 100.

Flewelling, Wilma Shaffer.

Critical evaluation of individualized instruction in mathematics. XX, May 1927, 280-285.

Foberg, John A.

Pennsylvania state course of study in mathematics. XVI, May 1923, 266-273.

French, John R. P.

A layman looks at mathematics. XXII, Oct. 1929, 348-360.

Georges, J. S.

On the nature of algebraic language. XXI, March 1928, 135-150.

Study of procedures used in the determination of objectives in the teaching of mathematics. XXII, March 1929, 156-165.

Supplementary project in functional graphs. XIX, March 1926, 174-178.

Gibson, Charles S.

Some methods in subtraction. XVII, Dec. 1924, 486-494.

Ginsburg, Jekuthiel.

Professor Smith's literary activities (a bibliography). XIX, May 1926, 306-311.

Rabbi ben Ezra on permutations and combinations. XV, Oct. 1922, 347-356.

Goff, Robert R.

A few lessons in calenlus for high schools. XV, May, 1922, 307-308. Reflective process in geometry. XVII, May 1924, 287-289.

Systematic procedure in the solution of algebraic problems. XVI, Oct. 1923, 350-355.

Good, Warren R., and Hope H. Chipman.

Teaching of proportion in plane geometry. XXI, Dec. 1928, 454-464.

Gorsline, W. W.

Slide rule in plane geometry. XVII, Nov. 1924, 385-403.

Gould, Clarence G.

Art of questioning. XVI, Jan. 1923, 52-56.

Greene, Harry A., and Ruth O. Lane, Validation of new types of plane geometry tests. XXII, May 1929, 293-301.

Grossman August.

Analysis of the teaching of cancellation in algebraic fractions. XVII, Feb. 1924, 104-109.

Gugle, Marie.

Recreational values achieved through mathematics clubs in secondary schools. XIX, April 1926, 214-218.

Revision of college preparatory mathematics. XIX, Oct. 1926, 321-327.
Symposium of discussion on the National Committee Report on junior high school mathematics. XIV, Jan. 1921, 26-28.

Gulden, Minerva. See Russell, Helen G.

Haas, Arthur.

"Attack" in propositions on inequality of lines. XIX, April 1926, 228-234.

Haerter, Leonard D.

Use of the inventory test in plane geometry. XIX, March 1926, 147-154. Hagan, Irene G.

Changeable changeless naught. XIX, Feb. 1926, 102-103.

Hall, John J.

Discussion: the rule for the multiplication of two negative numbers. XIX Nov. 1926, 429-432.

Hanna, John Calvin.

Vitalizing instruction in geometry. XV, May 1922, 308-310.

Harnish, Walter E.

Classification of pupils in algebra. XVII, Jan. 1924, 58.

Harper, G. A.

Experimental geometry. XV, March 1922, 157-163.

- See Newell, M. A.

Hart, Howard F.

Communications. XIV, April 1921, 207-208.

Discussion: status of geometry. XIX, Feb. 1926, 121-122.

Notes on Mr. Evans' paper in the March Teacher. XV Oct. 1922, 360-361.

Tennis ball geometry. XV, April 1922, 239-240.

Hart, W. W.

Purpose, method and mode of demonstrative geometry. XVII, March 1924, 170-177.

Hassler, Jasper O.

Suggestions on conducting the recitation in geometry. XIX, Nov. 1926, 411-418.

Teaching geometry into its rightful place. XXII, Oct. 1929, 333-341.

Use of mathematical history in teaching. XXII, March 1929, 166-171.

Hatton, Mary Caroline.

Mathematics club. XX, Jan. 1927, 39-45.
— and Doris H. Smith.

Falling in love with plain geometry (a play). XX, Nov. 1927, 389-402. Hawley, James B.

Team work in elementary algebra. XVI, April 1923, 248-250.

Hedges, Blanche B.

Geometry detected by Sherlock Holmes. XIV, March 1921, 128-136.

Hedrick, E. R.

Functionality in mathematical instruction in schools and colleges. XV, April 1922, 191-207.

Remarks on the Report of the National Committee on Mathematical Requirements on college entrance requirements. XIV, March 1921, 137-142.

Hegeman, Andrew S.

Certain cases of extraneous roots. XV, Feb. 1922, 110-118.

Hefferman, John K.

Introduction to the study of geometry. XIX, Feb. 1926, 78-80.

Helseth, Inga Olga.

Four fundamental arithmetical processes in adults. XX, May 1927, 265-273.

Hildebrandt, Martha.

Adapting plane geometry to pupils of limited ability. XVIII, Feb. 1925, 102-110.

Hirsdansky, Simon.

Interesting circulating decimal. XVII, Jan. 1924, 57-58.

Hiyama, Shige.

Japanese problems. XVI, Oct. 1923, 359-365.

Houghtaling, Anna Elizabeth, and Frances Marguerite Clarke. Oldest algorism in the French language. XIX, March 1926, 179-183.

Howarth, Helen E.

Cultural value of mathematics. XVI, March 1923, 150-156.

Howell, Nathan R.

Teaching percentage with a ruler. XV, Nov. 1922, 436-439.

Huffman, Pleasant.

Formula for conjunction problems. XV, March 1922, 184.

Hunter, William L.

Figures. XVII, Oct. 1924, 367. "Math." XIX, Feb. 1926, 77.

Huntington, Albert H.

How can I bring the soul of mathematics to my pupils? XV, March 1922, 164-171.

Hussey, Frederick K.

Four years of mathematics for commercial pupils. XVII, Nov. 1924, 411-421.

Ingraham, M. H.

Williams James and Henri Poincaré. XX, May 1927, 253-264.

Jablonower, Joseph.

Project method and the socialized recitation. XXI, Dec. 1928, 431-441.

Opportunities for transfer making in elementary mathematics. XXI, May 1928, 292-302.

Understanding and practice. XXI, Feb. 1928, 111-115.

Jackman, Alonzo.

Volume of a sphere. XV, Feb. 1922, 90-92. (Edited by C. H. Spooner) Jackson, Dunham.

Notion of limit. XVII, Feb. 1924, 72-77.

College entrance requirements in geometry. XXII (Dec. 1929), 487.

Johnson, Elsie Parker.

Teaching pupils the conscious use of a technique of thinking. XVII, April 1924, 191-201.

Johnson, J. T.

Some comments on the first yearbook by the National Council of Teachers of Mathematics. XIX, Nov. 1926, 434-441.

Jones, Gertrude.

Few determinants in building the course of study in mathematics. XXII, Nov. 1929, 397-404.

Unified mathematics in secondary schools. XVII, May 1924, 290-300.

Judd, Charles H.

Informational mathematics versus computational mathematics. XXII, April 1929, 187-197. Errata to this article. XXII, Oct. 1929, 332. Judkins, Pearl.

Applied mathematics in high schools. XIX, Feb. 1926, 81-85.

Kane, Sister M. Gabriel.

Cultural value of mathematics. XV, April 1922, 228-236.

Karpinski, Louis C.

Permanent nature of the necessity for mathematics in the secondary schools. XXII, April 1929, 197-202.

Kempner, Aubrey J.

Cultural value of mathematics. XXII, March 1929, 127-145. Extension of concepts in mathematics. XVI, Jan. 1923, 1-23.

Keyser, Cassius J.

Concerning the disciplinary value of mathematics. XVI, Feb. 1923, 123. Human worth of rigorous thinking. XV, Jan. 1922, 1-5. Speech at dinner in honor of Professor Smith. XIX, May 1926, 274-275.

Kilpatrick, William Heard.

Next step in method. XV, Jan. 1922, 16-25. Kinney, J. M.

Calculus in the high school. XVI, Oct. 1923, 321-331.

Function concept in high school mathematics. XV, Dec. 1922, 484-495. The formula in ninth grade algebra. XIV, Nov. 1921, 367-380.

Knoer, Alvin.

Proof of the theorem of Pythagoras. XVIII, Dec. 1926, 496-497.

Korzybski, Alfred.

Fate and freedom. XVI, May 1923, 274-290.

Laird, John M.

Mathematics as used by the actuary. XVI, Dec. 1923, 500-503.

Laird, Robert A.

Original solution in plane geometry. XV, Oct. 1922, 361-363.

Landis, Edward H. See Richardson, R. P.

Lane, Ruth. See also Greene, Harry A.

Uses of cardboard. XVIII, April 1925, 239-241.

Leacock, Stephen.

Human interest put into mathematics. XVII, May 1929, 302-304.

Lennes, N. J.

Brief study in non-mathematical logic. XVI, April 1923, 242-246.

Lietzmann, W.

New types of schools in Germany and their curricula in mathematics. XVII, March 1924, 148-153.

Lindell, Selma A. See Schorling, Raleigh.

Lindquist, Theodore.

Lest we forget. XX, Nov. 1927, 375-380.

Lipka, Joseph.

Alignment charts. XIV, April 1921, 171-178.

Locke, L. Leland.

Mathematics of the calculating machine. XVII, Feb. 1924, 78-86.

Some mathematics of the calculating machine. XV, Nov. 1922, 423-428.

Loomis, Hiram B. Open letter. XX, Jan. 1927, 1-4.

Lovitt, W. V.

Continuity in mathematics and everyday life. XVII, Jan. 1924, 31-34. Imagination in mathematics. XVII, May 1924, 263-268.

Teaching by parables. XXI, Jan. 1928, 10-17.

Luccock, Ethel.

Memory and marks in mathematics. XVII, May 1924, 274-282.

Lytle, Ernest B.

Generalization. XXII, Jan. 1929, 18-22.

McCain, A. B.

Improvement in algebra teaching. XIX, Feb. 1926, 112-114.

McCaughn, J. Z. A.

"You never can tell." XVII, Jan. 1924, 58-60.

McCoy, Louis A.

Achievement test in solid geometry. XXI, March 1928, 151-162.

Advantages of a general course in mathematics for the first two years in high school. XVI, Nov. 1923, 421-424.

McCullough, H. L.

Looking backward. XX, Nov. 1927, 386-388.

Macdonald, Louise Anderson.

Interplay of mathematics and English. XVIII, April 1925, 284-295.

McFarlane, C. T.

Presentation to Teachers College of a portrait of Professor Smith. XIX, May 1926, 297-298.

McLaughlin, Henry P.

Algebraic magic squares. XIV, Feb. 1921, 71-77.

Geometry as a course in reasoning. XVI, Dec. 1923, 493-499.

Plan for meetings of mathematics teachers in a high school. XXII, Nov. 1929, 418-426.

McMackin, Frank J.

Eclipse. XVIII, May 1925, 298-299.

McWilliams, Lulu E.

Study of pupil reactions. XXII, May 1929, 284-292.

Macy, V. Everit.

Address at the presentation to Teachers College of a portrait of Professor Smith. XIX, May 1926, 302.

Malsch, Fritz.

Teaching of mathematics in Germany since the war (translated by Ralph Beatley). XX, Nov. 1927, 355-369.

Marsh, Harry B.

Why and how in algebra. XXI, Feb. 1928, 72-82.

Martin, E. J.

Mathematics in industry and research. XXII, March 1929, 172-177. Martin, Emilie N.

Some varieties of space. XVI, Dec. 1923, 470-480.

Meeks, L. H.

Some interesting sidelights upon elementary mathematics introducing a new expansion of binomial theorem. XIX, March 1926, 166-168.

Mensenkamp, L. E.

Ability classification in ninth grade algebra. XXII, Jan. 1929, 38-48. Some aspects of correlation theory. XVI, Feb. 1923, 112-122.

Merrell, H. D.

Fads and plane geometry. XX, Jan. 1927, 5-18.

Merrill, Helen A.

So let me work. XIX, Feb. 1926, 99.

Meserve, Harrison G.

Mathematics one hundred years ago. XXI, Oct. 1928, 336-343.

Messick, A. I.

Effect of certain types of speed drills in arithmetic. XIX, Feb. 1926, 104-109.

Metzler, W. H.

Editorial. XIV, Jan. 1921, 46-47.

Mielziner, Leo.

Address at the presentation to Teachers College of a portrait of Professor Smith. XIX, May 1926, 299-300.

Miller, Bessie Irving.

Romance in science. XV, Nov. 1922, 416-422.

Miller, Florence Brooks.

A near tragedy. XXII, Dec. 1929, 472-481.

Mathematics plus. XXII, April 1929, 224-231.

Miller, G. A.

Classification of positive integers as regards the ultimate sum of their digits. XVI, April 1923, 247-248.

Public honors for mathematical contributions. XVI, Oct. 1923, 335-339. Minnick, John Harrison.

Aims of mathematical education. XIV, Oct. 1921, 297-304.

Communications. XIV, April 1921, 206.

Cultural value of secondary mathematics. XVI, Jan. 1923, 35-40. The recitation in mathematics. XIV, March 1921, 119-123.

Mirick, Gordon R.

International mathematical congress, XVII, Oct. 1924, 379-383.

Mechanics, XVI, Feb. 1923, 87-93; April 1923, 236-241; May 1923, 291-294.

- Report of the seventy-ninth meeting of the American Association for the Advancement of Science, XVIII, Feb. 1925, 119-121.
 - and Vera Sanford.
- Elective course in mathematics for the eleventh and twelfth school years, XIX, April 1926, 235-241.
- Scales of notation, XVIII, Dec. 1925, 465-471.
- Study of a pupil's knowledge of algebra at the beginning of his junior year in high school, XVIII, March 1925, 171-181.
- Modesitt, R. L.
 - Fundamental principles of algebra, XV, Oct. 1922, 332-346.
- Moore, Charles D.
- Handling problems in arithmetic by type. XXII, Nov. 1929, 427-428.
- Moore, Charles N.
 Future development of mathematical education, XV, Dec. 1922, 478-483.
- Mathematics and the future, XXII, April 1929, 203-214. Moriarity, M. M. S.
- Geometry notes, XXI, May 1928, 280-291.
- Moritz, Robert E.
 - On the precedence of numerical operations, XVI, Nov. 1923, 425-430.
- Morley, Raymond K.
 - You know what I mean, XIX, Nov. 1926, 385-394.
- Morris, Richard.
 - Circles through notable points of the triangle, XXI, Feb. 1928, 63-71.
 - Isotomic points of the triangle, XXI, March 1928, 163-170. Stewart's theorem with applications, XXI, Dec. 1928, 465-478.
- Moulton, E. I.
 - Probability applied to grades, XVI, March 1923, 141-149.
- Munch, H. F.
 - Suggestions for a first lesson in algebra. XXII, Dec. 1929, 467-471.
- Murphy, L. W.
 - Reviews in geometry, XVI, Nov. 1923, 440-441.
- Myers, George W.
 - Arithmetical productiveness of utilitarian, social and scientific ideals; viewed historically, XX, Feb. 1927, 93-100.
 - Outstanding pedagogical principles now functioning in high school mathematics, XIV, Feb. 1921, 57-63.
 - Reaction vs. radicalism in the teaching of mathematics, XV, March 1922, 137-146.
- Neville, Harvey A.
 - Mathematics and science, XX, Jan. 1927, 19-25.
- Newell, M. J. and G. A. Harper.
 - First lessons in demonstrative geometry, XIV, Jan. 1921, 42-45.
- Nordgaard, Martin A.
 - Earlier place for the calculus in the curriculum, XX, Oct. 1927, 321-327.
 - Origin and development of our present method of extracting the square and cube roots of numbers, XVII, April 1924, 223-238.
- Nunn, T. Percy.
 - Sequence of theorems in school geometry, XVIII, Oct. 1925, 321-332.
- Nyberg, Joseph A.
 - Classroom methods in teaching algebra, XIX, Oct. 1926, 366-372.

Objectives in intermediate algebra, XX, Dec. 1927, 451-458.

Proving the equality of the base angles of an isosceles triangle, XXII, Oct. 1929, 318-319.

Recent changes in the teaching of algebra, XVIII, Jan. 1925, 10-21.

Teaching of cancellation, XVIII, Dec. 1925, 472-476.

Uniform grading of examinations in algebra, XX, April 1927, 203-211.

Nygaard, P. H.

Radio and airplane distances, XXII, Feb. 1929, 117-120.

Olds, George B.

Mathematics and modern life, XXI, April 1928, 183-196.

O'Quin, R. L. See Webber, W. Paul.

Orleans, Jacob S. See Orleans, Joseph B.

Orleans, Joseph B. and Jacob S. Orleans.

Study of prognosis in high school algebra, XXII, Jan. 1929, 23-30.

Osburn, W. J.

Ten reasons why pupils fail in mathematics, XVIII, April 1925, 234-238. Osgood, W. F. and others.

Twenty years of the Association of Teachers of Mathematics in New England, XVII, Feb. 1924, 94-103.

Otis, Arthur S.

Visual method of solving arithmetic problems, XXI, Dec. 1928, 483-489.

Overman, J. R.

Problem of homework papers, XIV, March 1921, 143-146.

Teaching the algebraic language to junior high school pupils, XVI, April 1923, 215-227.

Palmer, Eva M.

Geometry speaks, XV, Dec. 1922, 496-500.

Pearson, M. H.

Certain systems of tangent curves, XVII, Oct. 1924, 368-369.

Some time-saving methods in teaching graphing, XVII, Feb. 1924, 117-119.

Pease, Glenn R.

Analysis of the learning units in * processes in algebra, XXII, May 1929, 245-283.

Percival, W. P.

Mathematics teacher's creed, XIX, March 1926, 184.

Perry, Winona M.

Has algebra certain real values for the high school student of today? XX, Nov. 1927, 403-406.

Student difficulties in exercises in geometry, XVIII, Feb. 1925, 79-82. What are the real values of geometry? XXI, Jan. 1928, 51-54.

Pierce, Martha.

Mathematical recreations, XIX, Jan. 1926, 13-24.

Pilliod, Mary Phillips.

Speech at dinner in honor of Professor Smith, XIX, May 1926, 271-274.

Plimpton, George A.

Address at the presentation to Teachers College of a portrait of Professor Smith, XIX, May 1926, 298-299.

Speech at dinner in honor of Professor Smith, XIX, May 1926, 263-265.

Potter, Mary A.

Attempt to improve computation, XX, Nov. 1927, 381-385. Individualized instruction in geometry, XIX, April 1926, 219-227. Introducing Mechalus to geometry, XV, Oct. 1922, 357-360.

Pratt, Gertrude V.

Popularizing plane and solid geometry, XXI, Nov. 1928, 412-421.

Pressey, Luella Cole.

Words of classical derivation in common mathematical vocabulary, XIX, Oct. 1926, 343-348.

Price, Lillis.

Changes in subject matter and method to fit different ability groups in mathematics, XVII, Dec. 1924, 495-499.

Experiment in classification of pupils in algebra, XVI, Jan. 1923, 24-28.

Quigley, Mary J.

Meeting the attacks on algebra, XIX, March 1926, 155-161.

Rabourn, Sara B. F.

Few classroom devices to stimulate interest in mathematics, XX, Oct. 1927, 328-333.

Rankin, W. W.

Cultural value of mathematics, XXII, April 1929, 215-223.

Raster, Alfreda.

Mathematical games, XVII, Nov. 1924, 422-425.

Reed, Zulu.

High school mathematics clubs, XVIII, Oct. 1925, 341-363.

Reese, Mary M.

Study of mathematics under the individual system, XV, Dec. 1922, 460-466.

Reeve, William David.

Better use of tests in mathematics, XVII, March 1924, 140-147.

Case for general mathematics, XV, Nov. 1922, 381-391.

Educational tests—to standardize or not to standardize, XXI, Nov. 1928, 369-389.

General trend of mathematics education in the secondary schools, XVII, Dec. 1924, 449-458.

List of reference books and magazines for teachers of mathematics, XV, May, 1922, 303-307.

Objectives in teaching demonstrative geometry, XX, Dec. 1927, 435-450. Objectives in teaching intermediate algebra, XX, March 1927, 150-160. Objectives in the teaching of mathematics, XVIII, Nov. 1925, 385-405.

Mathematical clubs in the high school, XV, Nov. 1922, 434-435.

From the shelves of Dr. David Eugene Smith's unique mathematical historical library, XVII, May 1924, 269-273.

Reynold, Lena E.

Refior, Sophia.

Papers by pupils of the plane geometry classes of Fullerton Union High School, XV, March 1922, 172-181.

Reynolds, Joseph B.

Finding plane areas by algebra, XXI, April 1928, 197-203.

Some applications of algebra to theorems in solid geometry, XVIII, Jan. 1925, 1-9.

Vectors for beginners, XIV, Nov. 1921, 355-361.

Rice, Mabel Frances.

What the state teachers college means to Bemidji financially, XXII, Oct. 1929, 342-347.

Rice, Harris.

Errors in computations and the rounded number, XV, Nov. 1922, 392-404. Richards, Harold F.

Teaching of algebra, XVI, Jan. 1923, 41-47.

Richardson, R. P.

Discussion, XVI, March 1923, 191-192.

Richmond, Vesta A.

Number of things for beginners in geometry, XX, March 1927, 142-149. Rietz, H. L.

Elementary exposition of the theorem of Bernoulli with applications to statistics, XIV, Dec. 1921, 427-434.

Roantree, William F.

Question of method in subtraction, XVII, Feb. 1924, 110-116.

Roberts, J. A.

How to figure averages with the top of a shoe box; or the use of an alignment chart in averaging, XVII, Dec. 1924, 471-474.

Roe, H. B.

Minimum mathematical requirements for agricultural study, XV, Jan. 1922, 30-42.

Rogers, Agnes L.

Psychological tests of mathematical ability and educational guidance, XVI, April 1923, 193-205.

Rorer, Jonathan T.

Present tendencies in high school mathematics, XVII, Jan. 1924, 22-30.

Rosenberger, Noah Bryan.

Place of elementary calculus in senior high school mathematics, XV, March 1922, 152-156.

Rounds, Emma.

Pursuit of zero, XVII, Oct. 1924, 365-367.

Rowlands, Agnes Grant.

Concerning the intercommunion of mathematics and astronomy, XVI, Jan. 1923, 48-51.

Craig's edition of Euclid; its "use and application" of the principal propositions given, XVI, Nov. 1923, 391-397.

Place of mathematics in junior high school education, XXII, Oct. 1929, 323-332.

Rudman, Barnet.

Teaching logarithms to high school pupils in eight recitation periods, XIX, Dec. 1926, 456-471.

Teaching the verbal problem in intermediate algebra, XXII, Feb. 1929, 83-92.

Rugg, Harold O.

Curriculum making: what shall constitute the procedure of national committees? XVII, Jan. 1924, 1-21.

Russell, Helen G., and Myrtle H. Duncan, Minerva Gulden, Rebecca Symmes, and Mary Derby.

Mathematics clubs, XVII, May 1924, 283-285, and October 1924, 350-358. Russell, James E.

Address at the presentation to Teachers College of a portrait of Professor Smith, XIX, May 1926, 300-301.

Ryan, James D.

Two methods of teaching geometry: syllabus vs. textbook, XXI, Jan. 1928, 31-36.

Ryan, W. J.

Values in high school mathematics, XIV, April 1921, 194-199.

Sadley, E. V.

Pleasant approach to demonstrative geometry, XIX, Dec. 1926, 484-486. Sanford, Vera.

Extraneous details, XXI, Feb. 1928, 83-91.

La Disme of Simon Stevin-the first book on decimals, XIV, Oct. 1921, 321-333.

Magic circles, XVI, Oct. 1923, 348-349.

New type final geometry examination, XVIII, Jan. 1925, 22-36.

Teaching incommensurables, XIV, March 1921, 147-150.

Textbooks in unified mathematics for college freshmen, XVI, April 1923, 206-214.

-. See Mirick, Gordon R.

- See Smith, David Eugene.

Sangren, Paul V.

Need for more adequate measurements of achievement in arithmetic, XXII, Jan. 1929, 1-13.

Schaaf, William L.

Human significance of mathematics, XIX, Dec. 1926, 472-483.

Schlierholz, Tillie.

Number play in three acts, XVII, March 1924, 154-169.

Schorling, Raleigh.

Experimental courses in secondary school mathematics, XV, Feb. 1922, 63-78.

General mathematics, XX, Feb. 1927, 65-81.

Symposium of discussion on the National Committee Report on junior high school mathematics, XIV, Jan. 1921, 37-41.

- See also Research department.

- and Selma A. Lindell.

Program of investigation and cooperative experimentation in the mathematics of the seventh, eighth, and ninth school years, XIV, May 1921, 264-275.

- and Selma A. Lindell.

Investigation in the teaching of the skills of ninth grade algebra, XVIII, Oct. 1925, 375-377.

Schreiber, Edwin W.

Significant facts in the history of the metric system for teachers of junior and senior high school mathematics. XXII, Nov. 1929, 373-381.

Some ideals in teaching mathematics, XIV, May 1921, 252-254.

Study of the cultivation of space imagery in solid geometry through the use of models, XVI, Feb. 1923, 102-111.

Study of the factors of success in first year algebra, XVIII, Feb. 1925, 63-78, and March 1925, 141-163.

Schrek, J. E.

Teaching of secondary mathematics in Holland, XIX, Oct. 1926, 329-342.

Schwartz, A. J.

Teaching of beginning geometry, XV, May 1922, 265-282.

Scott, Erma.

Geometry humanized. A school play in one act, XXI, Feb. 1928, 92-101.

Scott, Flora L.

Repetition of errors in algebra, XVIII, Feb. 1925, 92-96.

Selleck, George H.

Locophobia, its cause and cure, XXII, Nov. 1929, 382-389.

Sharwell, Truman P.

Books that help make mathematics interesting, XIX, Nov. 1926, 419-428.

Shaw, James Byrnie.

A chapter on the aesthetics of the quadratic, XXI, March 1928, 121-134.

How Alice made Pi Mu Epsilon, XX, Oct. 1927, 344-348. Teaching mathematics to girls, XVIII, Dec. 1925, 455-464. Way mathematicians work, XVI, March 1923, 170-174.

Shelley, S. L.

Slide rule in business, XIV, May 1921, 261-263.

Sherman, Charles Pomeroy.

Origin of our numerals, XVI, Nov. 1923, 398-401.

Shippy, Van Zandt.

Example of geometry teaching by the laboratory method, XVII, May 1924, 286-287.

Short, R. L.

Notes on the teaching of arithmetic, XV, Dec. 1922, 500-502.

Shriner, Walter O.

Reliability of teachers' marks, XVII, Nov. 1924, 426-443.

Simons, Lao G.

Dutch textbook of 1730, XVI, Oct. 1923, 340-347.

Place of the history and recreations of mathematics, in teaching algebra and geometry, XVI, Feb. 1923, 94-101.

Speech at dinner in honor of Professor Smith, XIX, May 1926, 261-262.

Sister Alice Irene.

Some objectives to be realized in a course in plane geometry, XXII, Dec. 1929, 435-446.

Skerrett, Josephine.

Mathematical nightmare, XXII, Nov. 1929, 413-430.

Slaught, H. E.

Carus mathematical monographs, XVIII, March 1925, 183-184.

Evolution of numbers—an historical drama in two acts, XXI, Oct. 1928, 305-315.

Mathematics and sunshine, XXI, May 1928, 245-252.

Report of committee on incorporation, XXI, Oct. 1928, 363-365.

Romance of mathematics, XX, Oct. 1927, 303-309.

Sloctemyer, Hugo F.

Logic of mathematical processes, XVI, March 1923, 162-169.

Smith, David Eugene.

Call of mathematics, XIX, May 1926, 282-290.

Certain mathematical ideals of the junior high school, XIV, March 1921, 124-127.

Esthetics and mathematics, XX, Dec. 1927, 419-428. Form of the universe, XXI, Feb. 1928, 107-110.

- Introduction to the infinite, XXI, Jan. 1928, 1-9.
- Lesson of dependence, XXI, April 1928, 214-218.
- Next step in content in junior high school mathematics, XV, Jan. 1922, 26-27.
- Poetry of mathematics, XIX, May 1926, 291-296.
- Religio mathematici, XIV, Dec. 1921, 413-426.
- Speech at dinner in his honor, XIX, May 1926, 276-281.
- Speech at presentation of portrait to Teachers College, XIX, May 1926, 302-305.
- Suggestions on the arithmetic question, XVIII, Oct. 1925, 333-340.
- Time in relation to mathematics, XXI, May 1928, 253-258.
- and Vera Sanford. A great mathematician as a school boy, XIV, Nov. 1921, 362-366.
- with Clifford B. Upton, William David Reeve, William E. Breckenridge, and Jekuthiel Ginsburg. Brief list of mathematical books suitable for libraries in high schools and normal schools, XVIII, Dec. 1925, 477-489.
- Smith, Donald P.
 Project in mathematics, XVIII, Feb. 1925, 97-101.
- Smith, Doris H. See Hatton, Caroline.
- Snedden, David.
 - Prescribed versus elective mathematics in junior high schools, XV, Feb. 1922. 105-109.
- Snow, William B.
 - Address of welcome (Boston meeting), XXI, Oct. 1928, 344-346.
- Snyder, Ruth L.
 - "If," XXII, Dec. 1929, 482-486.
- Snyder, W. A.
 - The middle of the road, XX, Feb. 1927, 112-122.
- Spencer, Peter L.
- Informal tests for diagnosis and remedial teaching in mathematics, XVI, March 1923, 175-182.
- Spooner, C. H.
- See Jackman, Alonzo.
- Stabler, E. Russell.
 - Assumptions and proofs, XXI, Jan. 1928, 46-48.
- Stark, W. E.
 - Speech at dinner in honor of Professor Smith, XIX, May 1926, 265-267.
- Stokes, C. N.
 - Individual instruction in ninth year algebra, XVIII, April 1925, 209-218.
- Stone, Charles A.
 - Approach to the solution of the problems which the traditional mathematics program presents, XVIII, Dec. 1925, 449-454.
 - Correlation of the mathematical subjects develops mathematical power, XVI, May 1923, 302-310.
 - Laboratory method of teaching mathematics in the classroom, XVII, April 1924, 209-222.
- Statham, Jeannette F.
 - Is geometry possible? XXI, Oct. 1928, 353-356.
- Stritzinger, Marylew.
- Traveling Mathematics, XIX, Dec. 1926, 490-495.
- Strong, Theodore.

Teaching plane geometry without a textbook, XIX, Feb. 1926, 115-119.

Stroup, P.

Discussion of "Revision of College Preparatory Mathematics" by Miss Gugle, XIX, Oct. 1926, 373.

Direct cultural motivation for demonstrative geometry, XX, March 1927, 173-177.

Why is it? XIX, March 1926, 169-173.

When is a proof not a proof? XIX, Dec. 1926, 499-505.

Sykes, Mabel.

Some pedagogical aspects of geometry teaching, XX, Dec. 1927, 466-472.

Symmes, Rebecca. See Russell, Helen G.

Symonds, Percival M.

Mathematics as found in society: with curriculum proposals, XIV, Dec. 1921, 444-450.

Psychology of errors in algebra, XV, Feb. 1922, 93-104.

Swenson, John A.

Newer type of mathematics, XXII, March 1929, 152-155.

Taylor, Edward.

Discussion. True-false examinations, XVIII, Dec. 1925, 498-500.

Taylor, E. H.

Mathematics in the junior high school, XX, April 1927, 223-235.

Use of problems in teaching elementary algebra, XX, Feb. 1927, 101-111. Taylor, S. Helen.

Oral work in high school algebra, XVII, Jan. 1924, 35-45.

Thomson, Godfrey H.

Should we teach statistics in the senior high school? XVII, March 1924, 129-139.

Thorndike, Edward L.

Constitution of algebraic abilities, XV, Nov. 1922, 405-415.

Note on the failure of educated persons to understand simple geometrical facts, XIV, Dec. 1921, 451-453.

Nature of algebraic abilities, XV, Jan. 1922, 6-15; Feb. 1922, 79-89.

Psychology of the equation, XV, March 1922, 127-136.

Psychology of problem solving, XV, April 1922, 212-227; May 1922, 253-264.

Strength of the mental connections formed in algebra, XV, Oct. 1922, 317-331.

Touton, Frank C.

Comments on the teaching of geometry, XIV, May 1921, 246-251.

Tracy, Sarah E.

Junior high school mathematics in Newton, Mass., XVIII, March 1925, 134-140.

Tripp, M. O.

Applications of indeterminate equations to geometry, XXI, May 1928, 268-272.

Tromp, Theresa.

Fourth dimension and hyperspace, XIX, March 1926, 140-146.

Turetsky, Morris.

Permutations in the 16th century Cabala, XVI, Jan. 1923, 29-34.

- Tyler, H. W.
- Mathematics in science, XXI, May 1928, 273-279.
- Tyler, W. H.
 - Calculus for schools, XV, April 1922, 208-211.
- Upton, Clifford Brewster.
 - Influence of standardized tests on the curriculum in arithmetic, XVIII, April 1925, 193-208.
 - Teachers' course in arithmetic in the normal school, XVIII, Nov. 1925, 406-417.
 - Toastmaster at dinner in honor of Professor David Eugene Smith, XIX, May 1926, 259-281.
- Van Denberg, Joseph K.
 - Articulation of junior and senior high school mathematics, XIV, Feb. 1921, 88-94.
 - Next step for the administrator in junior high school mathematics, XV, Jan. 1922, 28-29.
- Vosburgh, W. L.
 - Greetings from the New England Association of Teachers of Mathematics, XXI, Oct. 1928, 347-349.
- Wade, Bailey M.
 - Point system of teaching algebra, XXII, Feb. 1929, 80-82.
- Walck, Sidney.
 - Accuracy of the values for pi, XIX, Feb. 1926, 110-111.
- Walker, Helen M.
 - What the tests do not test, XVIII, Jan. 1925, 46-53.
 - Mathematical contest, XX, May 1927, 274-279.
- Walsh, C. B.
 - Symposium of discussion on the National Committee Report on junior high school mathematics, XIV, Jan. 1921, 35-37.
- Wannemacher, Alberta S.
 - Geometric aids for elementary algebra, XXII, Jan. 1929, 49-57.
- Waterhouse, Josephine.
 - Tangent, XIX, Dec. 1926, 489.
- Watson, E. E.
- Analysis of freshman college mathematics, XIX, Nov. 1926, 408-410.
- Wattawa, Virginia.
 - Study of the errors made in a ninth year algebra class, XX, April 1927, 212-222.
- Webb, Harrison E.
 - "Elementary geometry" and the "foundations," XIX, Jan. 1926, 1-12.
 - Future of secondary instruction in geometry, XIV, Oct. 1921, 337-341.
 - Professor Hedrick's report on the function concept in elementary mathematics, XV, Oct. 1922, 364-368.
- Webber, W. Paul.
 - Combined mathematics, XIV, Nov. 1921, 381-386.
 - Habit in the education process, XVII, April 1924, 202-208.
- Outlook with regard to school mathematics, XIV, Feb. 1921, 78-84.
- -, J. P. Cole and R. L. O'Quin.
- Few constructive phases of mathematics in life, XIX, Dec. 1926, 449-455.

Weimar, M. Bird.

Ability grouping of students in senior high school mathematics, XXI, Feb. 1928, 102-106.

Weismann, H.

Grouping in geometry classes, XXII, Feb. 1929, 93-108.

Werremeyer, D. W.

Computation in junior high school mathematics, XIV, May 1921, 255-260. Grouping pupils according to ability XV, April 1922, 237-239.

Wheeler, Albert Harry.

Mathematics club program, XVI, Nov. 1923, 385-390.

Williams, Frank B.

Teaching of mathematics: the need and the method, XV, Jan. 1922, 49-56. Williams, Glenn.

Ode to the cosine. Tangents, XIX, Dec. 1926, 488.

Winger, R. M.

Mathematical objectives, XXII, Dec. 1929, 462-466.

On the role of notation in mathematics, XVII, Oct. 1924, 323-335.

Worthington, Edward H.

Current practice in junior high school mathematics, XIX, Feb. 1926, 72-76. Worthington, J. E.

Study in fractions, XVI, Oct. 1923, 366-373.

Wright, Horace C.

No homework for mathematics pupils, XIV, Oct. 1921, 334-336.

Some true false examinations for use in general mathematics, XVIII, Feb. 1925, 83-91.

Wuest, Alma M.

Analysis versus synthesis, XX, Jan. 1927, 46-49.

Young, J. W.

Work of the National Committee on Mathematical Requirements, XIV, Jan. 1921, 5-15.

Zant, James H.

Comparison of the mathematics in the secondary schools of Germany and England and the training of teachers of secondary mathematics in these countries with the United States, XXII, Dec. 1929, 447-461.

Ziegler, D. G.

Concerning orientation and application in geometry, XXII, Feb. 1929, 109-116.

BOOK REVIEWS

Alexander, Georgia and John Dewey. Alexander-Dewey Arithmetics, XIV, Nov. 1921, 411.

Anderson, Robert F. Anderson Arithmetics. XIV, Nov. 1921, 411.

Andrews, Benjamin R. Economics of the Household. XVII, Feb. 1924, 127.

Atkin, Edith Irene. See Bonser, Frederick G. and also

Austin, William A. Laboratory Plane Geometry. Bess L. Scott. XIX, Nov. 1926, 444-445.

Avery, Royal A. Plane Geometry. Sophia R. Refior. XVIII, Nov. 1925, 442.

Bailey, Frederick H. B. See Woods, Frederick S.

Baker, Ida B. See Hillegas, Milo B.

Balcher, Arthur. See Johnson, Alan.

Barber, Harry C. Teaching Junior High School Mathematics. XVIII, Jan. 1925, 61-62.

Barrett, W. H. Elementary Organic Chemistry. Earl R. Glenn. XVI, May 1923, 320.

Bavink, B. Die Hauptfragen der heutigen Naturphilosophie. David Eugene Smith. XXII, Jan. 1929, 59-61.

Beatley, Ralph. See Malsch, F.

Bonser, Frederick G., F. G. Pickell, James H. Smith. Practical Mathematics for Junior High Schools. Edith Irene Atkin. XVII, Oct. 1924, 370-374.

Boon, F. C. Companion to Elementary School Mathematics. David Eugene Smith. XVII, May 1924, 314-315.

Bosmans, Henri, editor. La "Thiende" de Simon Stevin. David Eugene Smith. XVIII, May 1925, 302-303.

Bowman, Charles E. and Atlee L. Perry. Principles of Bookkeeping and Business. XIX, Nov. 1926, 443.

Brants, Mary G. See Hertz, Eugene.

Breckenridge, William E. Mannheim and Polyphase Slide Rule. XIV, Jan. 1921, 54.

Brewster, G. W. Common Sense of the Calculus. XVI, Nov. 1923, 447.

Brooks, Harry. Problem Arithmetic. XVII, Feb. 1924, 127.

Brown, Joseph C. and Albert C. Eldredge. Brown-Eldredge Arithmetics. E. C. Hinkle. XVII, Dec. 1924, 501-502.

Campbell, Ruth W. See Hayn, Julius J. H.

Carey, F. S. and J. Proudman. Elements of Mechanics. David Eugene Smith, XVIII, Nov. 1925, 438-439.

Carmichael, R. D. and James H. Weaver. The Calculus. Joseph Seidlin. XXII, April 1929, 242.

Carnot, Lazaire. Réflexions sur la Métaphysique du Calcul Infinitésimal. David Eugene Smith. XV, Oct. 1922, 377-379.

Carpenter, Perry A. See Edgerton, Edward I.

Christofferson, H. C. See Loomis, Elisha S. Clark, John R. and also Strader, William W.

Clairaut, Alexis-Claude. Éléments de Géometrie. David Eugene Smith, XIV, Nov. 1921, 408-411.

Clark, John R. See Schorling, Raleigh and Sumner, S. Clayton.

— and Arthur S. Otis. Modern Plane Geometry. H. C. Christofferson. XX, May, 1927, 300-301.

Clark, Mary L., Wallace A. Newlin and Arthur E. Smothers. The Adventures of X. XIV, Feb. 1921, 104.

College Board and Regents. Questions and Answers in Geometry. XVI, Oct. 1923, 382-383.

Conwell, George H. See Whittaker, E. T.

Davis, Alfred. See Putnam, T. M., Runge, C., and also Rider, Paul R. Davis, Nettie Stewart. Vocational Arithmetic for Girls. XIV, March 1921, 159.

Dean, John Candee. Astronomy of the Twentieth Century. XVIII, Feb. 1925, 126.

Dewey, John. See Alexander, Georgia.

Dence, C. J. See Rushmer, C. E.

Dintzl, Erwin. Arithmetik für die I-III Klasse; Arithmetik für die IV Klasse; Geometrie für die I-III Klasse. David Eugene Smith. XXII, April 1929, 243-244.

DoBell, H. A. See Ford, W. B. also Townsend, E. J.

Douglass, Harl Roy. Douglass Standard Diagnostic Tests for Measuring Achievement in First Year Algebra. XVIII, Feb. 1925, 126.

Downey, Walter F. See Milne, William J. and also Schorling, Raleigh. Drecker. Zeitmessung und Sterndeutung in geschichtlicher Darstettung. David Eugene Smith. XIX, Oct. 1926, 378.

Drushel, J. Andrew and John Withers. Junior High School Mathematical Essentials. Edith Irene Atkin. XVII, Oct. 1924, 372-374.

Drushel, J. Andrew, Margaret E. Noonan and John W. Withers. Arithmetic Essentials. XIV, Nov. 1921, 412.

Edgerton, Edward I. and Perry A. Carpenter. Intermediate Algebra. Sophia R. Refior. XVIII, Nov. 1925, 439-440.

Eldredge, Albert C. See Brown, Joseph C. Evans, Charles W. See Winger, R. M.

Evans, George W. See Reeve, William David; Rosenberger, Noah Bryan; Schorling, Raleigh; Milne, William J.; and also Nyberg, Joseph A.

Everett, J. P. See Smith, David Eugene.

Fine, H. B. Calculus. G. R. Mirick. XXII, March 1929, 182-183.

Foberg, John A. See Smith, David Eugene.

Ford, W. B. A First Course in the Differential and Integral Calculus. H. A. DoBell. XXII, March 1929, 182.

Gentleman. See Vosburgh.

Glenn, Earl R. See Barrett, W. H.

Griffin, Frank Loxley. Introduction to Mathematical Analysis. Martin Nordgaard. XX, Dec. 1927, 473-477.

Gugle, Marie. Modern Junior Mathematics—Book Two. XIX, Oct. 1926, 379.

Haley, Josephine. See Osburn, W. L., Wilson, Guy M. and also Knight. Hart, Howard F. See Stone, John C.

- Hart, Walter W. Junior High School Mathematics. William F. Roantree. XVII, May 1924, 309-312.
- Hassler. See Vosburgh.
- Hawkes, Herbert E., William A. Luby and Frank C. Touton. New Second Course in Algebra. XIX, Oct. 1926, 380.
- Plane Geometry. XIV, March 1921, 160.
- Hayn, Julius J. H. Geometry Reader. Ruth W. Campbell. XIX, Nov. 1926., 443-444.
- Heath, Thomas L. Greek Mathematics and Science. David Eugene Smith. XIV, Nov. 1921, 407-408.
- Copernicus of Antiquity (Aristarchus of Samos). David Eugene Smith. XIV, May 1921, 292-294.
- Hillegas, Milo B. Teaching Number Fundamentals. XX, April 1927, 236-237.
- Hillegas, Peabody, Baker. Horace Mann Supplementary Arithmetic. XX, April 1927, 236-237.
- Hinkle, E. C. See Marsh, Harry B. and also Stevens, Lou Bell.
- —. See Thorndike, Edward L.; Smith, David Eugene; Overman, James Robert; and also Brown, Joseph C.
- Jackson, C. S. Examples in Differential and Integral Calculus with Answers. David Eugene Smith. XIV, Oct. 1921, 351-352.
- Johnson, Alan and Arthur Belcher. Introductory Algebra. Second Course in Algebra. XX, May 1927, 301-302.
- Johnson, Roger A. Modern Geometry. Joseph Seidlin. XXII, Dec. 1929, 494-495.
- Judd, Charles Hubbard. Psychological Analysis of the Fundamentals of Arithmetic. XX, Oct. 1927, 351.
- Karpinski, C. L. History of Arithmetic. Vera Sanford. XIX, March 1926, 185-186.
- Keal, H. M. and C. J. Leonard. Mathematics for Electrical Students. XIV, Nov. 1921, 411.
- —. Mathematics for Shop and Drawing Students. XIV, Nov. 1921, 411.
 Kelley, Truman L., G. M. Ruch and Lewis M. Terman. Stanford Achievement Tests. XVI, May 1923, 320.
- Kerr, George P. See Werremeyer, D. W.
- Keyser, Cassius J. Mathematical Philosophy. Vera Sanford. XV, May 1922, 314-315.
- —. Thinking about Thinking. Vera Sanford. XX, Nov. 1927, 416-417. Killins, James. See Neely, R. R.
- Kliem, Fritz. Apollonius. David Eugene Smith. XXII, Jan. 1929, 59-61.
- Knight, F. B., E. M. Luse and G. M. Ruch. Problems in the Teaching of Arithmetic. XVII, Oct. 1924, 374-375.
- —. Standard Service Arithmetics—Book Two. Josephine Haley. XIX, Oct. 1926, 377.
- Krathwohl, William Charles. See Palmer, Claude Irwin.
- Kuderna, J. S. See Steinmetz, Charles P.
- Laplace. See Lavoisier.
- Latham, Marcia L. See Smith, David Eugene.

Lavoisier and Laplace. Mémoire sur la Chaleur. David Eugene Smith. XV, Oct. 1922, 379.

Leigh, C. W. See Palmer, C. I.

Lennes, N. J. Teaching of Arithmetic. William F. Roantree. XVI, May 1923, 318-319.

Leonard, C. J. See Keal, H. M.

Leventhal, Murray J. Book Review Series—Elementary Algebra. XIV, May 1921, 294.

- and M. Weiner. Plane Geometry Review. XV, Oct. 1922, 377.

- Geometry Note Book.

Lietzmann, W. Erkenntnislehre im mathematischen Unterricht der Oberklassen. David Eugene Smith. XIV, April 1921, 215-216.

—. Aus der Mathematik der Alten. David Eugene Smith. XXII, Feb. 1929, 124-125.

—. Uberblick über die Geschichte der Elementarmathematik. David Eugene Smith. XIX, Jan. 1926, 57.

- ... Ueberblick über die Geschichte der Elementar-mathematik. David Eugene Smith. XXII, Feb. 1929, 124-125.

Lindell, Selma A. See Schorling, Raleigh.

Lindquist, Theodore. Junior High School Mathematics, Books I, II, and III. XIV, Feb. 1921, 104.

Locke, L. Leland. See Roantree, William F.

Löffler, Eugen. Ziffern und Ziffernsysteme. I. Teil. David Eugene Smith. XXII, March 1929, 183.

Loomis, Elisha S. Pythagorean Theorem. H. C. Christofferson. XXI, Oct. 1928, 367.

Lord, George P. Rational Arithmetic. XIV, Feb. 1921, 105.

Luby, William A. See Hawkes. Luse, E. M. See Knight, E. B.

McMurray, Frank M. and C. Beverley Benson. Social Arithmetic—Book One. XX, April 1927, 237.

Maier, G. W. Marque. See Weeks, Raymond.

Malsch, F. Fahl und Raum. Ralph Beatley. XX, Nov. 1927, 412-417.

Marsh, Harry B. and James H. Van Sickle. Pilot Arithmetics, Books Two and Three. E. C. Hinkle. XVII, Dec. 1924, 500-501.

Milne, William J. and Walter F. Downey. Milne-Downey First Year Algebra. George W. Evans. XVII, May 1924, 315-317.

Mirick, Gordon R. See Woods, F. S., and Fine, H. B.

Moyer, James A. and Charles H. Sampson. Practical Trade Mathematics for Electricians, Machinists, Carpenters, Plumbers, and Others. John W. Regan. XVI, May 1923, 316-318.

Morss, Edward L. See Smith, David Eugene.

Mullins, George Walker and David Eugene Smith. Freshman Mathematics. Martin Nordgaard. XX, Dec. 1927, 473-477.

Neely, R. R. and James Killius. Modern Applied Arithmetic. XV. Jan.

Weimar, M. Bird.

Newlin, Wallace. See Clark, Mary S.

Noonan, Margaret E. See Drushel, J. Andrew.

Nordgaard, Martin. See Griffin, Frank Loxley and also Mullins, George Walker.

Nyberg, Joseph A. First Course in Algebra. George W. Evans. XVII, May 1924, 315-317.

Osburn, W. J. Corrective Arithmetic. Josephine Haley. XVIII, May 1925, 302.

Ostwald. Klassiker der exakten Wissenschaften. David Eugene Smith. XVII, April 1924, 242-243.

Otis, Arthur S. Otis Arithmetic Reasoning Test. XVI, May 1923, 320.

—. See Clark, John R.

- See Thurstone, L. L.

Overman, James Robert. Course in Arithmetic for Teachers and Teacher-Training Classes. E. C. Hinkle. XVII, Feb. 1924, 125-126.

——. Principles and Methods of Teaching Arithmetic. XIV, May 1921, 294-295.

Palmer, Claude Irwin and William Charles Krathwohl. Analytic Geometry. XIV, Nov. 1921, 411.

Palmer, C. I. and C. W. Seigh. Plane and Spherical Trigonometry. Sophia R. Refior. XVIII, Nov. 1925, 440-441.

Palmer, Taylor, Farnum. Plane Geometry. XVIII, Nov. 1925, 438.

Peabody. See Hillegas, Milo B.

Peet, T. Eric. Rhind Papyrus. David Eugene Smith. XVII, May 1924, 309.

Perry, Atlee S. See Bowman, Charles E.

Perry, Winona M. See Touton, Frank Charles.

Pickell, F. G. See Bonser, Frederick G.

Putnam, T. M. Mathematical Theory of Finance. Alfred Davis. XVI. Nov. 1923, 448.

Reeve, William David. See also Smith, David Eugene.

Diagnostic Study of the Teaching Problem in High School Mathematics, XIX, April 1926, 250.

 General Mathematics, Book Two. George W. Evans. XVI, Jan. 1923, 57-58.

Refior, Sophia R. See Smith, David Eugene; Avery, Royal A.; Palmer, C. I.; and also Edgerton, Edward J.

Regan, John W. See Moyer, James A.

Rhoads, Laurence D. See Strader, William.

Rider, Paul R. and Alfred Davis. Plane Trigonometry. XVII, March 1924, 189-190.

Roantree, William F. See Lennes, N. J.; Schorling, Raleigh; and also Hart, Walter W.

- and Mary S. Taylor. Arithmetic for Teachers. L. Leland Locke,

Weimar, M. Bird.

Ability grouping of students in senior high school mathematics, XXI, Feb. 1928, 102-106.

Weismann, H.

Grouping in geometry classes, XXII, Feb. 1929, 93-108.

Werremeyer, D. W.

Computation in junior high school mathematics, XIV, May 1921, 255-260. Grouping pupils according to ability XV, April 1922, 237-239.

Wheeler, Albert Harry.

Mathematics club program, XVI, Nov. 1923, 385-390. Williams, Frank B.

Teaching of mathematics: the need and the method, XV, Jan. 1922, 49-56. Williams, Glenn.

Ode to the cosine. Tangents, XIX, Dec. 1926, 488.

Winger, R. M.

Mathematical objectives, XXII, Dec. 1929, 462-466

On the role of notation in mathematics, XVII, Oct. 1924, 323-335.

Worthington, Edward II.

Current practice in junior high school mathematics, X1X, Feb. 1926, 72-76. Worthington, J. E.

Study in fractions, XVI, Oct. 1923, 366-373.

Wright, Horace C.

No homework for mathematics pupils, XIV, Oct. 1921, 334-336.

Some true false examinations for use in general mathematics, XVIII, Feb. 1925, 83-91.

Wuest, Alma M.

Analysis versus synthesis, XX, Jan. 1927, 46-49.

Young, J. W.

Work of the National Committee on Mathematical Requirements, XIV, Jan. 1921, 5-15.

Zant, James H.

Comparison of the mathematics in the secondary schools of Germany and England and the training of teachers of secondary mathematics in these countries with the United States, XXII, Dec. 1929, 447-461.

Ziegler, D. G.

Concerning orientation and application in geometry, XXII, Feb. 1929, 109-116.

BOOK REVIEWS

Alexander, Georgia and John Dewey. Alexander-Dewey Arithmetics, XIV, Nov. 1921, 411.

Anderson, Robert F. Anderson Arithmetics. XIV, Nov. 1921, 411.

Andrews, Benjamin R. Economics of the Household. XVII, Feb. 1924, 127.

Atkin, Edith Irene. See Bonser, Frederick G. and also Austin, William A. Laboratory Plane Geometry. Bess L. Scott. XIX,

Nov. 1926, 444-445. Avery, Royal A. Plane Geometry. Sophia R. Refior. XVIII, Nov. 1925, 442.

Bailey, Frederick H. B. See Woods, Frederick S.

Baker, Ida B. See Hillegas, Milo B. Balcher, Arthur. See Johnson, Alan.

Barber, Harry C. Teaching Junior High School Mathematics. XVIII, Jan. 1925, 61-62.

Barrett, W. H. Elementary Organic Chemistry. Earl R. Glenn. XVI, May 1923, 320.

Baxink, B. Die Huptfragen der heutigen Naturphilosophie. David Eugene Smith. XXII, Jan. 1929, 59-61.

Beatley, Ralph. See Malsch, F.

Bonser, Frederick G., F. G. Pickell, James H. Smith. Practical Mathematics for Junior High Schools. Edith Irene Atkin. XVII, Oct. 1924, 370-374.

Boon, F. C. Companion to Elementary School Mathematics. David Eugene Smith. XVII, May 1924, 314-315.

Bosmans, Henri, editor. La "Thiende" de Simon Stevin. David Eugene Smith. XVIII, May 1925, 302-303.

Bowman, Charles E. and Atlee L. Perry. Principles of Bookkeeping and Business. XIX, Nov. 1926, 443.

Brants, Mary G. See Hertz, Eugene.

Breckenridge, William E. Mannheim and Polyphase Slide Rule. XIV, Jan. 1921, 54.

Brewster, G. W. Common Sense of the Calculus. XVI, Nov. 1923, 447. Brooks, Harry. Problem Arithmetic. XVII, Feb. 1924, 127.

Brown, Joseph C. and Albert C. Eldredge. Brown-Eldredge Arithmetics. E. C. Hinkle. XVII, Dec. 1924, 501-502.

Campbell, Ruth W. See Hayn, Julius J. H.

Carey, F. S. and J. Proudman. Elements of Mechanics. David Eugene Smith, XVIII, Nov. 1925, 438-439.

Carmichael, R. D. and James H. Weaver. The Calculus. Joseph Seidlin. XXII, April 1929, 242.

Carnot, Lazaire. Réflexions sur la Métaphysique du Calcul Infinitésimal. David Eugene Smith. XV, Oct. 1922, 377-379.

Carpenter, Perry A. See Edgerton, Edward I.

Christofferson, H. C. See Loomis, Elisha S. Clark, John R. and also Strader, William W.

Clairaut, Alexis-Claude. Eléments de Géometrie. David Eugene Smith, XIV, Nov. 1921, 408-411.

Clark, John R. See Schorling, Raleigh and Sumner, S. Clayton,

- and Arthur S. Otis. Modern Plane Geometry. H. C. Christofferson. XX, May, 1927, 300-301.

Clark, Mary L., Wallace A. Newlin and Arthur E. Smothers. The Adventures of X. XIV, Feb. 1921, 104.

College Board and Regents. Questions and Answers in Geometry. XVI. Oct. 1923, 382-383.

Conwell, George H. See Whittaker, E. T.

Davis, Alfred. See Putnam, T. M., Runge, C., and also Rider, Paul R. Davis, Nettie Stewart. Vocational Arithmetic for Girls. XIV, March 1921, 159.

Dean, John Candee. Astronomy of the Twentieth Century. XVIII, Feb. 1925, 126,

Dewey, John. See Alexander, Georgia. Dence, C. J. See Rushmer, C. E.

Dintzl, Erwin. Arithmetik für die I-III Klasse; Arithmetik für die IV Klasse; Geometrie für die I-III Klasse. David Eugene Smith. XXII, April 1929, 243-244.

DoBell, H. A. See Ford, W. B. also Townsend, E. J.

Douglass, Harl Roy, Douglass Standard Diagnostic Tests for Measuring Achievement in First Year Algebra. XVIII, Feb. 1925, 126.

Downey, Walter F. See Milne, William J. and also Schorling, Raleigh. Drecker. Zeitmessung und Sterndeutung in geschichtlicher Darstettung. David Eugene Smith. XIX, Oct. 1926, 378.

Drushel, J. Andrew and John Withers. Junior High School Mathematical Essentials. Edith Irene Atkin. XVII, Oct. 1924, 372-374.

Drushel, J. Andrew, Margaret E. Noonan and John W. Withers. Arithmetic Essentials. XIV, Nov. 1921, 412.

Edgerton, Edward I. and Perry A. Carpenter. Intermediate Algebra. Sophia R. Refior. XVIII, Nov. 1925, 439-440.

Eldredge, Albert C. See Brown, Joseph C. Evans, Charles W. See Winger, R. M.

Evans, George W. See Reeve, William David; Rosenberger, Noah Bryan; Schorling, Raleigh; Milne, William J.; and also Nyberg, Joseph A.

Everett, J. P. See Smith, David Eugene.

Fine, H. B. Calculus. G. R. Mirick. XXII, March 1929, 182-183.

Foberg, John A. See Smith, David Eugene.

Ford, W. B. A First Course in the Differential and Integral Calculus. H. A. DoBell. XXII, March 1929, 182.

Gentleman. See Vosburgh.

Glenn, Earl R. See Barrett, W. H.

Griffin, Frank Loxley. Introduction to Mathematical Analysis. Martin Nordgaard. XX, Dec. 1927, 473-477.

Gugle, Marie. Modern Junior Mathematics-Book Two. XIX, Oct. 1926, 379.

Haley, Josephine. See Osburn, W. L., Wilson, Guy M. and also Knight. Hart, Howard F. See Stone, John C.

- Hart, Walter W. Junior High School Mathematics. William F. Roantree. XVII, May 1924, 309-312.
- Hassler. See Vosburgh.
- Hawkes, Herbert E., William A. Luby and Frank C. Touton. New Second Course in Algebra XIX, Oct. 1926, 380.
- Plane Geometry. XIV, March 1921, 160.
- Hayn, Julius J. H. Geometry Reader. Ruth W. Campbell. XIX, Nov. 1926, 443-444.
- Heath, Thomas L. Greek Mathematics and Science. David Eugene Smith. XIV, Nov. 1921, 407-408.
- Copernicus of Antiquity (Aristarchus of Samos). David Eugene Smith. XIV, May 1921, 292-294.
- Hillegas, Milo B. Teaching Number Fundamentals. XX, April 1927, 236-237.
- Hillegas, Peabody, Baker. Horace Mann Supplementary Arithmetic. XX, April 1927, 236-237.
- Hinkle, E. C. See Marsh, Harry B. and also Stevens, Lou Bell.
- --- See Thorndike, Edward L.; Smith, David Eugene; Overman, James Robert; and also Brown, Joseph C.
- Jackson, C. S. Examples in Differential and Integral Calculus with Answers. David Eugene Smith. XIV, Oct. 1921, 351-352.
- Johnson, Alan and Arthur Belcher. Introductory Algebra. Second Course in Algebra. XX, May 1927, 301-302.
- Johnson, Roger A. Modern Geometry. Joseph Seidlin. XXII, Dec. 1929, 494-495.
- Judd, Charles Hubbard. Psychological Analysis of the Fundamentals of Arithmetic. XX, Oct. 1927, 351.
- Karpinski, C. L. History of Arithmetic. Vera Sanford. XIX, March 1926, 185-186.
- Keal, H. M. and C. J. Leonard. Mathematics for Electrical Students. XIV. Nov. 1921, 411.
- —. Mathematics for Shop and Drawing Students. XIV, Nov. 1921, 411.
 Kelley, Truman L., G. M. Ruch and Lewis M. Terman. Stanford Achievement Tests. XVI, May 1923, 320.
- Kerr, George P. See Werremeyer, D. W.
- Keyser, Cassius J. Mathematical Philosophy. Vera Sanford. XV, May 1922, 314-315.
- Kliem, Fritz. Apollonius. David Eugene Smith. XXII, Jan. 1929, 59-61.
- Knight, F. B., E. M. Luse and G. M. Ruch. Problems in the Teaching of Arithmetic. XVII, Oct. 1924, 374-375.
- Krathwohl, William Charles. See Palmer, Claude Irwin.
- Kuderna, J. S. See Steinmetz, Charles P.
- Laplace. See Lavoisier.
- Latham, Marcia L. See Smith, David Eugene.

Lavoisier and Laplace. Mémoire sur la Chaleur. David Eugene Smith. XV, Oct. 1922, 379.

Leigh, C. W. See Palmer, C. I.

Lennes, N. J. Teaching of Arithmetic. William F. Roantree. XVI, May 1923, 318-319.

Leonard, C. J. See Keal, H. M.

Leventhal, Murray J. Book Review Series-Elementary Algebra. XIV, May 1921, 294.

- and M. Weiner. Plane Geometry Retriete XV, Oct. 1922, 377.

Lietzmann, W. Erkenntnislehre im mathematischen Unterricht der Oberklassen. David Eugene Smith. XIV, April 1921, 215-216.

—. Aus der Mathematik der Alten. David Eugene Smith. XXII, Feb. 1929, 124-125.

—. Uberblick über die Geschichte der Elementarmathematik. David Eugene Smith. XIX, Jan. 1926, 57.

—. Ueberblick über die Geschichte der Elementar-mathematik. David Eugene Smith. XXII, Feb. 1929, 124-125.

Lindell, Selma A. See Schorling, Raleigh.

Lindquist, Theodore. Junior High School Mathematics, Books I, II, and III. XIV, Feb. 1921, 104.

Locke, L. Leland. See Roantree, William F.

Löffler, Eugen. Ziffern und Ziffernsysteme. 1 Teil. David Eugene Smith. XXII, March 1929, 183.

Loomis, Elisha S. Pythagorean Theorem. H. C. Christofferson. XXI, Oct. 1928, 367.

Lord, George P. Rational Arithmetic. XIV, Feb. 1921, 105.

Luby, William A. See Hawkes. Luse, E. M. See Knight, E. B.

McMurray, Frank M. and C. Beverley Benson. Social Arithmetic-Book One. XX, April 1927, 237.

Maier, G. W. Marque. See Weeks, Raymond.

Malsch, F. Fahl und Raum. Ralph Beatley. XX, Nov. 1927, 412-417.

Marsh, Harry B. and James H. Van Sickle. Pilot Arithmetics, Books Two and Three. E. C. Hinkle. XVII, Dec. 1924, 500-501.

Milne, William J. and Walter F. Downey. Milne-Downey First Year Algebra. George W. Evans. XVII, May 1924, 315-317.

Mirick, Gordon R. See Woods, F. S., and Fine, H. B.

Moyer, James A. and Charles H. Sampson. Practical Trade Mathematics for Electricians, Machinists, Carpenters, Plumbers, and Others. John W. Regan. XVI, May 1923, 316-318.

Morss, Edward L. See Smith, David Eugene.

Mullins, George Walker and David Eugene Smith. Freshman Mathematics. Martin Nordgaard. XX, Dec. 1927, 473-477.

Neely, R. R. and James Killius. Modern Applied Arithmetic. XV, Jan. 1922, 57-58.

Neufeld, J. L. Elementary Algebra. XIV, March, 1921, 159.

Newcomb, Ralph S. Modern Methods of Teaching Arithmetic. XX. April 1927, 236. Newlin, Wallace. See Clark, Mary S.

Noonan, Margaret E. See Drushel, J. Andrew.

Nordgaard, Martin. 'See Griffin, Frank Loxley and also Mullins, George Walker,

Nyberg, Joseph A. First Course in Algebra. George W. Evans. XVII, May 1924, 315-317.

Osburn, W. J. Corrective Arithmetic. Josephine Haley. XVIII, May 1925, 302.

Ostwald. Klassiker der exakten Wissenschaften. David Eugene Smith. XVII, April 1924, 242-243.

Otis, Arthur S. Otis Arithmetic Reasoning Test. XVI, May 1923, 320.

— See Clark, John R.

- See Thurstone, L. L.

Overman, James Robert. Course in Arithmetic for Teachers and Teacher-Training Classes. E. C. Hinkle. XVII, Feb. 1924, 125-126.

—— Principles and Methods of Teaching Arithmetic. XIV, May 1921, 294-295.

Palmer, Claude Irwin and William Charles Krathwohl. Analytic Geometry. XIV, Nov. 1921, 411.

Palmer, C. I. and C. W. Seigh. Plane and Spherical Trigonometry. Sophia R. Refior. XVIII, Nov. 1925, 440-441.

Palmer, Taylor, Farnum. Plane Geometry. XVIII, Nov. 1925, 438.

Peabody. See Hillegas, Milo B.

Pect, T. Eric, Rhind Papyrus. David Eugene Smith. XVII, May 1924, 309.

Perry, Atlee S. See Bowman, Charles E.

Perry, Winona M. See Touton, Frank Charles.

Pickell, F. G. See Bonser, Frederick G.

Putnam, T. M. Mathematical Theory of Finance. Alfred Davis. XVI, Nov. 1923, 448.

Reeve, William David. See also Smith, David Eugene.

Diagnostic Study of the Teaching Problem in High School Mathematics. XIX, April 1926, 250.

— General Mathematics, Book Two. George W. Evans. XVI, Jan. 1923, 57-58.

Refior, Sophia R. See Smith, David Eugene; Avery, Royal A.; Palmer, C. I.; and also Edgerton, Edward J.

Regan, John W. See Moyer, James A.

Rhoads, Laurence D. See Strader, William.

Rider, Paul R. and Alfred Davis. Plane Trigonometry. XVII, March 1924, 189-190.

Roantree, William F. See Lennes, N. J.; Schorling, Raleigh; and also Hart, Walter W.

- and Mary S. Taylor, Arithmetic for Teachers. L. Leland Locke. XIX, Feb. 1926, 123.

- Arithmetic for Teachers. XX, April 1927, 238.

Robinson, George. See Whittaker, E. T.

Rosenberger, Noah Bryan. Place of the Elementary Calculus in the Senior

High School Mathematics; and Suggestions for a Modern Presentation of the Subject. George W. Evans. XV, March 1922, 185-186.

Ruch, G. M. See Kelley, Truman L. and Knight, E. B.

Runge, C. Vector Analysis. Alfred Davis. XVII, Feb. 1924, 126.

Rushmer, C. E. and C. J. Dence. High School Algebra. XVI, Oct. 1923, 382.

Rutledge, George. Topics in the Calculus. XVI, Dec. 1923, 504.

Sampson, Charles H. See Moyer, James A.

Sanford, Vera. See Karpinski, C. L.; Keyser, Cassius J.; Simons, Lao Genevra; and also Smith, David Eugene. The History and Significance of Certain Standard Problems in Algebra.

Lao G. Simons. XXII, Feb. 1929, 125-126.

Schorling, Raleigh. Tentative List of Objectives in the Teaching of Junior High School Mathematics with Investigations for the Determining of Their Validity. Walter F. Downey. XVIII, Dec. 1925, 503-505.

- and John R. Clark. Modern Algebra. George W. Evans. XVII,

May 1924, 315-317.

— Modern Mathematics: William F. Roantree XVII, May 1924, 312-314.

—. Modern Mathematics Seventh School Year and Eighth School Year. New edition. Jas. H. Zant. XXII, Nov. 1929, 431-432

—. Practice Exercises for Accuracy and Speed in the Fundamentals of Arithmetic. XVII, Feb. 1924, 127.

— and Selma L. Lindell. Instructional Tests in Algebra C. N. Stokes. XX. Jan. 1927, 50-52.

Schwartz, Albert J. See Young, John W.

Scott, Bess L. See Austin, William A.

Seidlin, Joseph. See Carmichael, R. D., Johnson, Roger A., and also Woods, Frederick S.

Seymour, F. Eugene. Plane Geometry. XIX, Jan. 1926, 52

Sheppard, Mel and Anna Vaughan. Games and Play for School Morale. XIV, Nov. 1921, 412.

Shibli, J. Plane and Spherical Trigonometry. Jas. H. Zant. XXII, Nov. 1929, 432-433.

Simons, Lao Genevra. Introduction of Algebra into American Schools in the Eighteenth Century. Vera Sanford. XVIII, Nov. 1925, 443-445. See also Sanford, Vera, and Smith, David Eugene.

Smith, David Eugene. Essentials of Plane Geometry. XVI, Nov. 1923, 447-448.

History of Mathematics. Vera Sanford. XVIII, May 1925, 305-308.
 "Mathematics"—Our Debt to Greece and Rome. Vera Sanford. XVII, Feb. 1924, 122-123.

Hinkle. XVI, Dec. 1923, 507-508.

—. See Boon, F. C.; Bosmans, Henri; Carey, F. S.; Carnot, Lazaire; Clairant, Alexis-Claude; Drecker; Heath, Thomas L.; Jackson, C. S.; Lavoisier; Lietzman, W.; Mathematics and Life Activities; Mullins,

- George Walker and-; Ostwald; Peet, T. Eric; Wieleitner, Heinrich; Wolff, Georg.
- See Bavink, R.; Dintzl, Erwin; Kliem, Fritz; Löffler, Eugen; Heinrich.
- and John A. Foberg and William David Reeve. General High School Mathematics, Books I and H. XX, April 1927, 239-240.
- and Marcia L. Latham. Geometry of Rene Descartes. Lao G. Simons. X1X, Oct. 1926, 379.
- and William David Reeve. Essentials of Algebra. XVII, May 1924, 317.
- and William David Reeve. Essentials of Algebra, Book H. Sophia R. Refior. XVIII, Nov. 1925, 442-443.
- and William David Reeve. Teaching of Junior High School Mathematics. J. P. Everett. XXI, Jan. 1928, 55-56.
- and William David Reeve and Edward L. Morss. Exercises and Tests in Algebra. C. N. Stokes. XX, Jan. 1927, 51-52.
- --- Exercises and Tests in Plane Geometry. Vera Sanford. XXII, March 1929, 181.
- Smith, James H. See Bonser, Frederick G.
- Smothers, Arthur E. See Clark, Mary S.
- Steinmetr, Charles P. Four Lectures on Relativity and Space. J. G. Kulcena XVI, Oct. 1923, 383-384.
- Stenguist, John L. Baltimore Age Calculator. XVII, Oct. 1924, 375.
- Stevens, Lon Bell and James H. Van Sickle. The Pilot Arithmetic. Book One E. C. Hinkle. XVII, Dec. 1924, 500-501.
- Stokes, C. N. See Smith, David Eugene and also Schorling, Raleigh.
- Stone, Charles A. See Waples, Douglas
- Stone, Chil W. Standardized Reasoning Tests in Arithmetic and How to Utilize Them. XV, Oct. 1922, 377.
- Stone, John C. Junior High-School Mathematics, Book III. XIV, March 1921, 159.
- and Howard F. Hart. Elementary Algebra. XVII, Oct. 1924, 374.
 Strader, William W. and Laurence D. Rhoads. Plane Geometry. H. C. Christofferson, XXI, Jan. 1928, 56-57.
- Studebaker. See Knight.

đ.

18,

- Sullivan, J. W. N. History of Mathematics in Europe. Sophia R. Refior, XVIII, Nov. 1925, 441-442.
- Sumner, S. Clayton. Supervised Study in Mathematics and Science. John R. Clark. XVII, Feb. 1924, 123-125.
- Swensen, John A. High School Mathematics: A First Course. Mary S. Taylor. XVI, May 1923, 315-316.
- Taber, C. W. and Ruth A. Wardall. Economics of the Family. XVII, Feb. 1924, 126-127.
- Taylor, E. H. Arithmetic for Teacher-Training Classes. XX, April 1927, 240-241.
- Taylor, Mary S. See Roantree, William F. and also Swenson, John A.
- Terman, Lewis M. See Kelley, Truman L.
- Thorndike, Edward L. New Methods in Arithmetic. Edgar C. Hinkle, XIV, Oct. 1921, 352-354.

Thurstone, L. L. Thurstone Vocational Guidance Tests; Arithmetic, Algebra, Geometry. Arthur S. Otis. XV, Dec. 1922, 506-507.

Touton, Frank Charles. Solving Geometric Originals. Winona M. Perry. XVIII, May 1925, 303-305.

-. See Hawkes, Herbert E.

Townsend, E. J. Functions of a Real Variable. H. A. DoBell. XXII, March 1929, 182.

Vaughan, Anna. See Sheppard, Mel.

Van Sickle, James H. See Marsh, Harry B. and also Stevens, Lou Belle. Vosburgh, Gentleman, and Hassler. Junior High School Mathematics, Retrised Edition. XVII, Dec. 1924, 502-503.

Waples, Douglas, and Charles A. Stone. A Teaching Unit: A Type Study Jas. H. Zant. XXII, Nov. 1929, 430-431.

Wardall, Ruth A. See Taber, C. W. Weeks, Raymond. Boys' Own Arithmetic. G. W. Marque Maier. XVIII, May 1925, 300-301.

Weaver, James H. See Carmichael, R. D.

Weiner M. See Leventhal, Murray J.

Werremeyer, D. W. Cumulative Mathematics. George P. Kerr. XIX, Jan. 1926, 53-56.

Whittaker, E. T. and George Robinson. A Short Course in Interpolation. The Calculus of Observations. George H. Conwell. XVII, Oct. 1924, 375-376.

Wieleitner, Heinrich. Der Gegenstand der Mathematik im Lichte Ihrer Entwicklung. David Eugene Smith. XIX, Jan. 1926, 58.

-. Mathematische Quellen-bücher I Rechnen und Algebra; II Geometrie und Trigonometrie; III Analytische und Synthetische Geometrie. David Eugene Smith. XXII, Jan. 1929, 59-61.

Williard, E. L. Fundamental Drills, Books I, II, III, and IV. XIV, Feb. 1921, 105.

Wilson, Guy M. What Arithmetic Shall We Teach? Josephine Haley. XX, April 1927, 238-239.

Winger, R. M. Introduction to Projective Geometry. Charles W. Evans. XVI, Oct. 1923, 383.

Withers, John. See Drushel, J. Andrew.

Wolff, Georg. Mathematik und Malerci. David Eugene Smith. XVIII, Dec. 1925, 505-506.

Woods, F. S. Advanced Calculus. Gordon R. Mirick. XIX, April 1926, 250.

- and Frederick H. B. Bailey. Elementary Calculus. Joseph Seidlin. XXII, April 1929, 242.

Young, John W. and Albert J. Schwartz. Plane Geometry. XVI, Dec. 1923, 504-507.

Zant, Jas. H. See Schorling, Raleigh; Shibli, J.; and Waples, Douglas.

